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Canine Distemper.

MAJOR G. W. DUNKIN'S LECTURE AT THE CRYSTAL PALACE.

A very considerable proportion of the visitors to the Royal Veterinary College Championship Dog Show at the Crystal Palace attended the lecture on "Distemper," given on the evening of the first day—Thursday, October 27th—by Major G. W. Dunkin, M.R.C.V.S., D.V.H., Veterinary Superintendent of the Medical Research Council's Farm Laboratories at Mill Hill.

The lecture was illustrated by a large number of excellent lantern slides and dealt largely with the research work into distemper carried on at Mill Hill under the direction of the lecturer and of Dr. P. P. Laidlaw.

Major F. T. G. HOBDAY, Principal of the Royal Veterinary College, Camden Town, in introducing the lecturer, said: It is my privilege to introduce to you Major Dunkin, who is the Veterinary Representative of the Medical Research Council on the research into distemper which is being made at the laboratories at Mill Hill at the present time. (Applause.) This is the greatest effort which has ever been put forward to find the prevention and cure of distemper. It really seems that we are almost within sight of the prevention of distemper. (Applause.) It has been a labour, and a hard labour, because one has been up against a great many difficulties that were not realised before starting on it. A great deal of this work has been due to Major Dunkin and the effort he has put into it. (Applause.)

It is now some four years ago since this work was started. It originated really with three people, and it was thought that members of the veterinary profession could find the brains if someone could find the money—it is always the money we are after. (Laughter.) The Editor of *The Field* was approached with the request that he should try and get for us £15,000, so that we might have £5,000 a year for three years. He said he would ask for £25,000—then we should be certain of getting £15,000. You will be pleased to hear, ladies and gentlemen, that we are within £3,800 of the £25,000. (Applause.) The work that has been done up to the present time has fully justified the expenditure of time and money that has been spent on it. I think I cannot conclude my introduction of Major Dunkin better than by reading to you a few paragraphs appearing in the last issue of *The Field*:—

"As previously stated, we now want less than £3,800 to finance the scientific investigation of the causes, prevention and cure of distemper in hounds and dogs. The Technical Scientific Committee, after over four years' work by their investigators, are now definitely encouraged to believe that they are within sight of success. As the result of the work at the Research Station at Mill Hill, hounds, dogs and ferrets have, under experimental conditions, already been rendered immune against distemper.

"There remains the difficult problem of producing a reliable vaccine which can be made available for general use, and, in order to concentrate on this and bring the work to an end, we ask for the small proportion of the £25,000, originally estimated to be the cost of the work, now remaining to be subscribed. We do not doubt that sportsmen all over the world will rally round us, and that the Press, too, will again help us in making known throughout the land the progress made with the work and the financial effort still necessary to see it through."

I will now call on Major Dunkin to tell us the progress and results of the investigation which is being carried on. (Applause.)

THE LECTURE.

Major DUNKIN: I am privileged to address you to-day on the always absorbing subject of canine distemper, and I need hardly say that I approach the subject with no little hesitation and with a certain lack of confidence. It is not too much to say, perhaps, that very few, if any, owners have had the good fortune never to have possessed a dog which was not at one time or another the subject of distemper.

From a purely pathological standpoint it is a condition bristling with interest to pathologists and veterinarians alike and by reason of the varied picture produced by individual dogs when suffering from the disease and the only too often fatal termination, it naturally follows that dog owners are also greatly interested.

The inauguration of dog shows at which the best of the breeds are to be seen competing with others for the coveted places in the prize list, has brought in its train a large increase in the number of breeders, an improvement in type and, as was to be expected, a phenomenal increase in the number of dogs.

Apart, however, from these princely representatives of the canine race, there are, of course, countless mongrels whose market value is a negligible quantity, but whose sentimental value to their owners, whether they be the blind man begging at the street corner, the poacher, or the lonely widow, cannot be estimated in hard cash.

The aspect assumed by the pathologist is, from the dog's point of view, completely unbiased, and he who is engaged on the subject of dog distemper cares not whether the dog, as a dog, is a champion of his breed or an unfortunate stray. The result will be the same, for if his efforts are crowned with success all dogs will, he hopes, benefit to an equal degree.

Speaking generally, dog distemper is known all over the world and is to be found in all countries where dogs exist, and it is for this reason, perhaps, the best known and, for reasons which I will attempt to explain later, the most baffling of all diseases to which the dog is subject.

Distemper is also a very old disease—exactly how old it is impossible to say, but if a careful search of old literature be made one can frequently come across references to an illness of dogs which from the meagre account given of the symptoms cannot have been any other than distemper.

The difficulties which would be encountered when the investigation into the cause of distemper was commenced were more than fully realised. Previous workers in this country, in America, in France, Japan and Italy, whose published work has been of such value to those of us so engaged, all demonstrated only too clearly the formidable task which lay before the "Field" Distemper Council.

You may be interested to hear of the difficulties experienced by some of those workers.

PUNTONI, an eminent Italian pathologist, in a paper published in 1924, describes a breakdown in his work owing to the failure to transmit the disease to purchased pups, and his work was consequently held up for some months and until such time as laboratory-bred pups were forthcoming.

FERRY, an American, has stated that he has experienced considerable difficulty relating to the extremely contagious nature of the disease while trying to raise pups for experimental purposes, but although he was a sufferer by reason of certain outbreaks of distemper among his experimentally-bred dogs, he was not prepared to agree with the conditions laid down by MCGOWAN as being necessary for the final establishment, beyond cavil, of any organism being the cause of distemper. MCGOWAN requires a secluded isolated place shut off from all communication with the outside world, and which has not been visited by domestic or other animals for several years previous to occupation. The caretaker of this place would have to be shut off from communication with the outer world for years and it would have to be determined by some means or other that he himself was not a carrier of the disease. Animals would have to be selected not only not suffering from the disease, but having been demonstrated not to be carriers of the disease. Pups would have to be reared from the isolated animals and would be inoculated by the person who had isolated himself.

He further stated that he had been unable to isolate an animal in such a way that he could satisfy himself that every chance of the animal obtaining the disease by natural means was excluded.

The "Field" Distemper Council had the advantage of these workers' experiences, and I draw your attention to them merely to demonstrate more clearly why the precautions which are taken at Mill Hill are necessary.

We could not possibly realise McGowan's ideals, and so other things were planned.

The ease with which infection can be carried from dog to dog, the possibility of certain dogs being carriers of the disease—that is, the power of an animal to pass on infection without actually suffering or appearing to suffer from the disease—and many other baffling questions of equal importance, all had to be borne in mind and weighed in the balance before a start could be made.

BUILDINGS.

The planning of the buildings in which it was intended to conduct the work, care for the sick animals and our clean stock of animals, all had to receive the greatest attention and the most careful thought, and although there were some who considered that the precautions taken were much too elaborate, subsequent work has proved that those who were responsible for the general lay out of the buildings did not err on the side of over-caution.

As many of you may not be acquainted with the methods which have been adopted at Mill Hill, and also as I particularly wish to make plain the steps which are necessary to prevent spread of the disease, I propose to outline briefly the type and relative position of our buildings and to describe as thoroughly as possible, in the limited amount of time at my disposal, the methods which we have found necessary to adopt in order that we could be certain of the results obtained and that they should be devoid of any sort of doubt.

In view of the unfortunate experience of other workers it was definitely decided that we must breed our own experimental animals. It was further decided that the animals bred must be so kept and housed that there be no possible chance of infection gaining access to them until such time as we desired such an event to take place.

[The first slide, a sketch plan of the compound, was now shown.]

The breeding compound, then, for such it has been named, is placed some three or four hundred yards from all other buildings on the farm. It consists of kennels and runs, a food preparation house, a bungalow for the kennel maids and a building called the cleansing house. The whole is surrounded by a corrugated iron fence, except the last two structures mentioned, and these are bisected in the manner to be described.

The iron fence is six feet high and is buried three feet in the ground.

The kennels are each eight feet square, ten feet high in front and eight feet at the back. Each has a raised bench and is lighted by two large windows. A door, having a hatchway, leads into the run, which is thirty-five feet by eight and is bird proof.

The floors of both kennels and runs are concrete covered by a bitumastic substance, making the surface impervious to moisture.

The bungalow is a four-roomed structure containing two bedrooms, a common sitting room and a kitchen and larder.

The remaining two buildings are built on the edge of the compound and, as stated above, are bisected by the iron fence. The food preparation house is divided into two, the outer half being kept for the storage of food material, blankets, etc., and the inner contains a boiler and steriliser. In this compartment all food is prepared and all sterilising carried out.

Blankets, clothing, utensils and, in fact, everything intended for the compound, is sterilised first and is then passed through a hatchway from this compartment into the compound.

The last building in the compound to describe is the cleansing house. This is a three-roomed structure and is the most important of them all, for in this the kennel maids change on returning from the outside, bathe and don their kennel and sterile clothing. Moreover, this building provides the only means of access and egress to and from the compound and *only* the kennel maids possess a key to this building. No one other than the kennel maids is permitted

to enter with the exception of mechanics, who are obliged to enter on occasions to attend to gas or water supplies, and these men are completely clothed in rubber and well disinfected before entering. In any case, they never go nearer than 30 yards to the dogs and never by any chance see them.

The duties of the kennel maids are whole time, and they are assisted in their work by an attendant whose sole duty is to prepare food for the dogs and sterilise materials intended for the compound. On certain occasions when the kennels are full, or the kennel maids are busily occupied with bitches which are whelping, the attendant, after being suitably clothed in rubber and well disinfected beforehand, assists in the cleaning of the kennels, but on no account does he come into contact with the dogs.

It will thus be seen that a more or less complete and very elaborate system is in force to guarantee, as far as possible, that a good healthy supply of puppies is always available, and more particularly that the supply is absolutely untainted with distemper infection.

At this point in my address it may interest you to know that for the first two and a half years of our work, 100 per cent. of puppies born alive were reared and brought to maturity and without exception were excellent examples of what dogs should be. I speak in this connection from a purely anatomical and physiological standpoint, for many, if not all of you, would be somewhat perplexed if asked to state the breed of any particular dog you might be shewn at our kennels. (Laughter.)

Further, I would like to emphasise that our dogs have been uniformly susceptible, and we have, therefore, achieved our primary object.

I desire at this stage to pay a tribute to our kennel maids. But for their strong devotion to duty, their constant care of the animals under their charge, their unfailing loyalty and strict adherence to our somewhat exacting rules, the work could not have been carried on. (Applause.) These young women are quite isolated from other members of the staff and are not permitted to have visitors. Their only means of communication to any other department is by local telephone.

[Slides were here exhibited, as follows: General view of compound, looking north; *ditto*, close up; looking east and shewing food preparation house and cleansing house; kennel maids receiving food at F.P.H. hatchway; *ditto*, close up; entrance to covered way of kennels; kennel maids leaving bungalow; exercising the dogs; one of the first dogs born in the kennels, now three years old; the steriliser.]

One other building, which has been found indispensable to the work in hand, is known as the dog hospital and, as the name implies, was originally intended for use for sick dogs. It is an elaborately-constructed building, consisting of fourteen cubicles, each being completely shut off from its neighbour. The walls of these cubicles and, in fact, of the whole building, are covered with fibro cement, as also is the ceiling. The floor is of the same material as that used in the kennels. The drainage is of the surface type, being easily inspected and cleaned, and there are three traps, two inner and one outer. The entrances, two in number, are by way of passages about ten feet long and four feet wide, in which is always kept a 2½ per cent. solution of lysol or izal about 3in. to 4in. deep. Every member of the staff has to wade through this bath before he can gain entrance to the building, which means that an entrance cannot be made with comfort unless rubber boots are worn. In fact, we have a rule that no person is permitted to enter this building unless he is completely clothed in rubber and even then he is not permitted to enter a cubicle containing a sick animal until he has been washed down with some reliable disinfectant. The head attendant in charge is responsible for seeing that this rule is never disobeyed.

Although, as stated above, this building was originally intended to be used as a hospital for experimental dogs, it was ascertained quite early in our investigations that it would be unsuitable for this purpose. It was found that infection spread from cubicle to cubicle in spite of the rigid routine which was in force. As a result of a very careful sifting of evidence as to the cause of this accidental spread of infection from dog to dog, we were driven to the conclusion that the cause was "air spread." As stated in our reports which have been published from time to time, we have been able to demonstrate that this method of infection may occur where ferrets are concerned, and a general conclusion we have consequently arrived at is that infection by air spread over limited distances, especially in a closed building, may occur.

Experimental dogs are, therefore, cared for in isolated cage kennels which are dotted about our premises, no two being less than 30 feet apart. The dog hospital is now used entirely for the accommodation of sick ferrets, concerning which I will speak later.

[The remaining slides, shown now at brief intervals by the lecturer, were as follows: Outside view of dog hospital; attendant at entrance of dog hospital; *ditto*, close up, shewing lysol bath; general view of the cage kennels; close up view of large cage kennel for numbers of dogs; a pen of normal susceptible ferrets; at work inside the dog hospital.]

The last building concerned in the work on distemper is the laboratory, and as the work conducted here is of a purely scientific nature I do not propose to bother you with a detailed description.

Briefly, the foregoing gives a very inadequate description of the buildings in which our work is being conducted, and it will doubtless be clear that a sincere effort has been made to ensure that no accident which could have been foreseen could happen.

The chief reason I have for describing in such detail the disposition of our buildings and the extreme care taken with the animals is to indicate that the mere disinfection of the hands is inadequate if prevention of spread of distemper is desired.

The Use of Ferrets.—One of our main difficulties, which was not entirely unforeseen, was the fact that individual dogs varied considerably in the degree of severity of an attack and the symptoms shewn were in many instances inconclusive. Such a state of affairs has doubtless been observed by most dog breeders and has also, no doubt, perplexed them. It is sufficiently well known that puppies of the same litter and kept and fed under precisely similar conditions on occasions do not suffer to an equal degree, for whereas one or more such puppies may develop serious illness and possibly die, others will shew quite mild symptoms.

This difficulty has been largely overcome by the fact that proof is now forthcoming that the disease from which ferrets suffer and which is known as distemper is precisely the same distemper as that of dogs. Further, the symptoms shewn by the former species are much more regular and definite and, generally speaking, the disease runs a much more regular course, and these facts, which of course had to be proved, have rendered conclusive the results of many experiments which might otherwise have been doubtful.

Many breeds of dog have had the distinction of being described as the most susceptible to distemper. The Master of Foxhounds will tell you that Foxhounds come easily first and that the death rate is higher than in any other breed. The breeder of Dachshunds, of Dandy Dinmonts, of Airedales or of Terriers, will express the same view.

Let us, for a moment, consider the significance of these statements, all of which are based on practical experience. Does it not suggest to one's mind that there is very little to choose between the susceptibility of the various breeds, but that in this respect they are all equal ?

It is well known among veterinary surgeons that their mongrel patients suffer as acutely as the pure bred dog and that the disease is as fatal as in the case of the latter.

It is probable, I think, that the uncared-for and unloved mongrel, by reason of his unlimited freedom, has infinite opportunities offered him for the contraction of distemper, and he undoubtedly takes full advantage of them.

Symptoms.

It is perhaps unnecessary to describe in any detail the symptoms of dog distemper to such an audience as this, but there are one or two points on which I desire to lay special stress. Distemper is primarily a septicæmia ; that is, a disease in which the organisms causing it are to be found in and multiply in the blood stream. The length of time which elapses between the infection and the onset of primary symptoms is from three to four days, or sometimes five days, and is recognised by a sharp rise of temperature, which sometimes reaches 105°F. or 106°F. Accompanying the fever, vomiting and diarrhœa are sometimes observed. The rise of temperature is only temporary, and usually there is a return to the normal, or about normal, the day following. Usually there is a further rise of temperature after the lapse of one or two days and, following this, depending on whether the attack is a severe or mild one, the temperature remains high or returns gradually to normal.

One of the main points which I wish to impress is that while the temperature is high a dog is not only infected but is a danger to others. His secretions and excretions are infective at this period and when one remembers the habit which all dogs acquire of smelling places where other dogs have been it is not surprising, if this fact is not known, that one finds it sometimes difficult, if not impossible, to say definitely how and when an infection occurred.

In such acute cases as I have attempted to describe, it is often quite impossible to discern that the dog is in any way abnormal, and illness is only observed if vomiting or diarrhœa has been seen, that the temperature has been taken or that inappetence exists.

It is not necessary, therefore, for a dog to be obviously ill—to have thick purulent discharges from eyes or nose—before he can be said to be suffering from distemper. Such symptoms as these are of a secondary nature and indicate that the infection is of at least some days' standing. As an example of this I will quote a typical case. A dog becomes infected and appears to be quite well until the third or fourth day, when he is noticed to be off his food. A vomit is observed and his stools may be a little loose. It may be thought that he has eaten something which has not agreed with him. The next day he is much better and is inclined to feed. During this short time his nose may be alternately hot and dry, or exceedingly moist, with a clear, watery discharge almost constantly running from one or both nostrils.

Such a case is one of acute distemper and may go on in one of two ways. The patient may recover and shew no other symptoms other than a slight loss of condition extending over some fortnight or three weeks, or it may develop into one or other of the serious types. You are doubtless well acquainted with these cases, for I refer to the various so-called "forms" of distemper—nervous, intestinal, bronchial, etc. All these are, however, merely sequelæ of the primary and original attack, which is invariably of the nature described.

It is not proposed at such a gathering as this to describe in any detail the symptoms shewn by an animal suffering from advanced distemper, for most, if not all, of you are only too well acquainted with the dreadful sights which meet our eyes when such symptoms supervene.

For this reason I desire to confine my remarks under the heading of symptoms to the acute cases I have described. Many people will tell you that their animals have not had distemper, this opinion being based upon the complete absence of the so-called classical symptoms, yet this is not necessarily the case, and I repeat it is possible for a young and susceptible dog to develop distemper and to recover without shewing more than dullness for about a day, during which time he may vomit. If his temperature is taken at this period it will be found to be high. Such symptoms are often associated with either improper feeding or what is known as a "chill on the stomach"—whatever that may mean. Dogs which behave as I have described above are, of course, infective to others, but on recovery are, we believe, immune to further attacks. There are many dogs which behave in this manner and it is possibly the apparent absence of symptoms which has led owners and others to assume that the animal in question had not been attacked. It is, I am told, by no means uncommon for owners of susceptible dogs purposely to mix them with animals actually suffering from distemper in order to ensure an attack at a known time. Many such animals develop the disease with all the usual and well-known symptoms, but many do not appear to be attacked and are described as "naturally immune." I cannot subscribe to this view, for I believe that no dog is born with a natural immunity to distemper. The probable explanation is that these animals have had, in the past, a subacute attack which lasted only a day or so and shewed only the comparatively mild symptoms just described, and have therefore acquired an immunity in the ordinary way. Another explanation of the failure to pass on distemper

in this manner is that there are certain stages of the disease when infection by ordinary contact is either very difficult or impossible and the test is, therefore, unreliable.

Treatment.

Under this heading I propose to say very little. The keen and observant owner is invariably an excellent nurse and generally this is the first essential. As to drugs, I believe there is no known drug which can honestly be said to be a cure for the disease, and I belong to that class of possibly misguided persons who believes that the correct medicinal treatment for distemper is to treat the symptoms as they appear.

Prevention.

In view of the more or less indefinite nature of the symptoms shewn by various animals attacked, it is recommended that animals which give signs of the symptoms which we have come to consider those of acute distemper should be suspect and that such animals should be kept rigidly isolated from others in the same kennel or, in fact, from any puppy thought to be still susceptible. At the same time, a careful bi-daily examination of the sick animal should be made, accompanied by a record of temperatures at these visits. Absolute quiet I believe to be an essential, and I also think it inadvisable artificially to feed an animal while he is shewing these acute symptoms, for in my experience he will come to his food in the course of a couple of days unless the attack is going to be severe.

The crowding of dogs in one kennel is, to my mind, a fatal procedure, for in the event of an outbreak occurring there will be a rapid passage of the infection from dog to dog at the optimum period, and, generally speaking, it is in kennels where crowding occurs that the worst attacks are observed. These conditions give every chance for secondary invaders, pneumococci, etc., to run riot in dogs already sickened by an acute infectious fever. That adequate disinfection of attendants is necessary is only too obvious, but when possible I advocate separate attendants.

With proper care and suitable clothing we have been able to keep for periods of many weeks infected and susceptible dogs in separate kennels yet attended by the same persons, without infection spreading. For this purpose, as has already been stated, our attendants are completely clothed in rubber and are rigidly disinfected after attention to each case.

Symptoms in Ferrets. This little animal, so useful and so interesting, suffers acutely from distemper and the disease is much more commonly fatal than in the dog, whatever the breed. The symptoms shewn are definite and usually commence on the ninth or tenth day after infection (nine to ten days being the incubation period of distemper in the ferret). The first seen are watery eyes, a vesicle or so on the chin or lips. The next day these symptoms are advanced and, in addition, the feet may be swollen and red. On the third day the eyes may be completely closed owing to pus formation, the lips are swollen and covered with vesicles and the animal is not feeding. Death usually occurs on the fourth or fifth day of symptoms and only a very few recover and these are then immune to further attacks.

Although distemper in the ferret ordinarily runs such an acute course, nervous symptoms are frequently observed. When these arise they are not unlike those seen in the dog. Fits are the most usual type seen, and while under the influence of such an attack the ferret frequently cries out as if in pain. There is frothing at the mouth and extreme weakness follows each attack. The fits become more frequent and more severe, and ordinarily the patient rarely survives more than twenty-four hours after the onset of these symptoms.

General.

Since our investigations commenced at Mill Hill we have, from time to time, been asked if we had discovered a cure for distemper, and I wish to point out at this stage that our original object in undertaking the investigation of this disease was to find a preventative. Merely to seek a cure appears to be closing the stable door after the horse has bolted.

In making reference to preventative measures which we have adopted, it would be ungallant and unfair if I failed specially to refer to my distinguished colleague, Dr. P. P. Laidlaw, F.R.S.—(applause)—and it is the fruits of his suggestions which have largely resulted in our being able to-day actively to immunise ferrets against distemper. Our work with dogs has proceeded along similar lines and the results have been most encouraging. Many of our dogs and dogs of other breeds are scattered all over the British Isles, having previously been subjected to the preventative treatment, and they have all so far stood up against infection although many of them have been actual contacts with cases of active distemper in all its stages. (Applause.)

Experimentally, we are convinced that a dog which has been immunised by our technique is completely immune, but the process is more tedious and difficult than in the case of ferrets. The work is, of course, incomplete and it is too early to say if the immunity conferred on our dogs is permanent, although reports suggest that this is so.

Assuming that it is now possible actively to immunise dogs and ferrets against distemper by means of the methods we have adopted, it must not be imagined that our troubles are over. The process of immunisation as at present in use is clumsy, expensive and, in the case of dogs, not without risk.

The solution of the difficulty lies, I think, in the ability to grow artificially the causal organism of the disease. If this were possible—and for the moment, it is not—one might have in one's hands the means of preparing an almost unlimited supply of vaccine and at a cost infinitely cheaper than the method we are employing to-day, and, whereas our present system is so difficult and complex, this would be overcome if we were able to grow, artificially, the causal organism.

The research is, of course, exceedingly expensive, and our thanks are due to the Editor of the *Field* for his untiring efforts to obtain for us the wherewithal to continue the work. (Applause.)

The work of my colleague, Dr. P. P. Laidlaw, and myself has been greatly assisted by the helpful and sympathetic advice, always forthcoming, from the Scientific Committee, and especially from its Chairman, Sir Charles Martin. (Applause.)

The slides I have shewn this evening were prepared by my colleague, Mr. J. E. Barnard, and his willing staff,

and I desire to thank them, especially Mr. F. Wild, for their trouble and energy which have brought forth such good results. (Applause.)

Mr. Chairman, ladies and gentlemen, my object in coming here this afternoon at the invitation of your Committee was threefold. I desired, in the first instance, to interest you; secondly, I wished to tell you of the progress of our work at Mill Hill; and, lastly, I was hopeful of being of some small assistance to my Alma Mater, the Royal Veterinary College, for whose benefit this excellent show has been inaugurated.

I am grateful to you for your close attention, and my one cherished hope is that I have attained those objects. (Applause.)

Major-General Sir JOHN MOORE: I am sure we are all very much indebted to Major Dunkin for coming here this evening and giving us the benefit of his experience of this most mysterious disease, distemper. (Applause.) As you have heard, he and his colleagues have gone to an enormous amount of trouble to conduct these experiments and we can only hope that in course of time they will be enabled to produce a vaccine that all of us can, and which the dog-owning community will, greatly appreciate.

Personally, I have not had any experience of dogs: my sphere of life has been confined to horses in the army, but I admire my brother professionals for the good work in various directions of veterinary science which they are conducting, and I should like, on your behalf, to thank Major Dunkin most heartily for all his trouble and for the most excellent address that he has given us this evening.

The vote of thanks was seconded by Mr. E. T. Cox, Hon. Organising Secretary of the Royal Veterinary College Championship Dog Show, and carried with acclamation, Major Dunkin making suitable acknowledgment.

An Appeal to British Jews.*

One of the greatest services which the Jews have rendered to mankind is the high standard of humane conduct which they have inculcated.

It is therefore with confidence that we suggest to British Jews to take the lead in a matter which is arousing concern in the mind of the public: we refer to the exceptionable practices which are still associated with the slaughter of animals for food. The position of the Jewish community in this connexion is pivotal, not only because their religion attaches particular significance to it, but also because some three-quarters of the meat killed in London is killed by the Jewish method. In one important respect Jews have already set an excellent example, for no unlicensed slaughtermen are employed by them, and no "shochet" is licensed until he has undergone elaborate training and is expert in the practice of certain rules which have a humane as well as a hygienic purpose. The principle that only competent persons should be permitted to kill is such a good one that the failure to adopt it is discreditable to Gentiles.

Cruelty is, however, involved in the current methods by which animals slaughtered by the Jewish method are cast into the position requisite for the work of the "shochet." It is useless for apologists to make light of the cruelty in question, for the facts are so well attested and, in fact, notorious, that apologetics of this nature carry no conviction. Professor E. H. Starling and Sir Michael Foster (two distinguished physiologists who investigated the matter on behalf of the Admiralty in 1904) condemned what they saw in unequivocal terms. Amongst other things, they stated that "in some cases, at least, one of the men introduced his fingers between the eyeball and upper eyelid, and dragged upon the upper eyelid in order to force the head back. The process of throwing was often violent, and when the carcase was skinned large superficial bruises were in some cases seen."

Professor F. T. G. Hobday, who is now Principal of the Royal Veterinary College, wrote as follows in a recent letter to the *Jewish Graphic*: "No veterinary surgeon would ever dream of casting a bullock or cow for operation by the crude and cruel method in vogue in a Jewish slaughterhouse. On one occasion, twice in one day, I saw horns broken off, and the piteous expression in the eyes, at the moment when the head was forced back by the crowbar, of some of the cattle I have seen killed in this way haunts me still." We are aware that Professor Leonard Hill and Sir William Bayliss have been quoted in support of the view that no cruelty is involved, but it seems clear that these physiologists must have used the word "cruelty" in a sense different from that understood by laymen and by some of their fellow-scientists.

The method of casting is not prescribed by the Jewish law: it varies from one slaughterhouse to another, and the work is commonly carried out by Gentiles. The responsibility for the use of cruel methods when humane methods are available rests, therefore, upon Jews, but not upon the Jewish religion.

The suffering involved can be entirely avoided by the use of the Weinberg Casting Pen, a description and appreciation of which will be found in the current number of the *Veterinary Journal*. We understand that the inventor's motive is humanitarian rather than commercial, and that he will be satisfied with a very modest return on his expenditure of money and labour; but we have no definite information on this point. In any event, Section 1 of the Patents and Designs Act 1919 would provide a sufficient safeguard against any abusive exploitation of his monopoly.

The inventor is an orthodox Jew, a tailor, of Leeds. With funds obtained by selling his furniture and by borrowing from sympathisers, he was able to construct a working model and to demonstrate it successfully in Leeds so long ago as June, 1924. With scanty encouragement from the Board of Schechita he brought the machine to London and in November, 1924, he gave a further demonstration in a small slaughterhouse lent by a kindly butcher, Mr. Austen, of Brixton. Tedious negotiations with the Board followed, but late in December, 1925, the machine was installed in Islington abattoir for extensive trial under its auspices. It remained there for over twelve months, and during that period only seven animals were passed through it, in spite of the persistent efforts of the inventor to obtain the trial which had been promised. Eventually, having attracted the attention of Professor Hobday and other eminent veterinary surgeons, and of the Royal Society for the Prevention of Cruelty to Animals, the machine was removed in January of this year, and further successful demonstrations were given on Mr. Austen's premises in March and July. Subsequently the Board again undertook to give it a trial: it was dismantled and the parts were taken once more to Islington abattoir, where they have remained up to the present time. No less than 80 per cent. of the meat killed at Islington is Jewish meat, and the Board of Schechita could practically close the market if it choose to do so. The ultimate responsibility therefore rests upon the Board, and we would ask the Jewish community to consider whether they have been worthily served by this body.

The matter could be argued on a low plane. Wherever humane slaughtering is enforced in England, Jews enjoy certain privileges and exemptions whose continuance they particularly desire. Public opinion is arising to demand a thoroughgoing reform of the British slaughter-house system from top to bottom, and if Jewish privileges are not to be swept away, as they were in Switzerland, when the gathering storm bursts, those privileges must

(*Continued at foot of first column next page.*)

*Reprinted from *The Spectator*, October 1st, 1927.

REPORTS.

Seventeenth Report of the Development Commissioners for the year ended 31st March, 1927.

The Report of the Development Commissioners is now in print and may be purchased from His Majesty's Stationery Offices or through any bookseller at the price of 3s. per copy. The report is very comprehensive and deals with the work carried out by research institutes and experimental stations, the activities of the Advisory and Local Investigation Service, Special Research Grants, Scholarships and Travelling Fellowships, Agricultural Education, Rural Economy, Fisheries and Harbours, and in appendices gives a list of publications relating to researches carried out during the year. It furthermore shews a statement of the finance of the Development Fund together with a schedule of grants and loans recommended by the Commissioners for the same period. It will be remembered that the fund consists of (1) An Ordinary Fund to which an annual grant is provided by Parliament in the Civil Service Estimates (£200,000 in 1926-27), and (2) A Special Fund expressly provided for by the Corn Production Acts (Repeal) Act, 1921, which at the time of the passing of the Act was £850,000 and originally calculated to last until 31st March, 1927. Payments during the year amounted to £262,707 from the Ordinary Fund, and £262,171 from the Special Fund, leaving a balance of £103,160 in the former Fund and £125,347 in the latter Fund. Expenditure during the financial year, therefore, amounted to £524,878. A grant of £250,000 has been made by Parliament to the Ordinary Fund for the year 1927-28, and commitments on schemes which had been started out of the Special Fund will be arranged for in the future by adjustment as between the Development Fund and Departmental Vote.

In this review it is proposed to deal only with items applicable to Veterinary Science, and matters related thereto. This has reference to research work carried out by the various Institutes of Animal Pathology and the work of veterinary advisers under the Advisory and Local Investigation Scheme.

(1) *Institute of Animal Pathology, Cambridge University.*

By the summer of 1926 the new buildings of the Field Laboratories, including accommodation for large animals, were completed. In course of time there will be a central veterinary unit in the University which, with the medical part, will form a School of Pathology. It is anticipated that centralising the two branches of pathology will aid collaboration and increase the value of comparative study of disease. The work of the Institute chiefly relates to investigation of the diseases of farm animals, a liaison for that purpose being maintained between veterinary practitioners, agricultural organisers and stockowners. Work in the field is greatly facilitated by a specially-built and equipped motor laboratory. Special attention has been given to sheep diseases, many of which occur at or about the time of lambing. Considerable progress has been made with lamb dysentery in Northumberland, an organism having been obtained from ewes whose progeny had died of the disease, which, when introduced into pregnant ewes, has resulted in some of the lambs developing dysentery. Experiments with a view to controlling the incidence of abortion in ewes and joint-ill in lambs are being continued and vaccines are being tried. The study, in the field, of garget, blood sores and scour is being pursued. Much useful *data* has been collected in the laboratory regarding intestinal protozoa and the possible value of chemotherapeutic measures. The whole time of one senior research assistant has been devoted to the study of the cultivation of certain filter-passing organisms. Advisory work in connection with the double intradermal tuberculin test in cattle has also been undertaken. The total grant allocated from the Fund for the year amounted to £9,900.

(2) *Research Institute in Animal Pathology, Royal Veterinary College.*

Research chiefly concerned quarter-ill and braxy, parasitic gastritis in sheep, Johne's disease, tuberculosis, and abortion in mares. A safer and more efficient vaccine for protecting animals against quarter-ill has been discovered: similar procedure of manufacture is likely to prove valuable in braxy. The testing-out of drugs for the destruction of parasitic worms in the stomach and intestines of sheep has proved disappointing, but experiments are continuing. Avian tuberculin has been supplied *gratis* to owners for the testing of animals suspected of Johne's disease. A study of the source of tuberculosis—human or bovine—has been made in horses, dogs and cats. Advice in regard to abortion in mares of a contagious character has continued to be given. The grant for the Institute for the year amounted to £5,000.

(3) *Scottish Animal Diseases Research Association.*

The Association has now a very formidable research programme and only three investigators are on the staff. There is urgent necessity for the appointment of four more investigators. Dysentery in lambs and grass disease in horses are now the major lines of investigation. With regard to the former, work is in progress to determine whether infection occurs before or after birth and to demonstrate the real importance of the micro-organisms which have been obtained from lambs suffering from the disease. Owing to the shortage of staff it was not possible to set up a field laboratory for the investigation of grass disease as in former years, but work in connection with the disease was carried out in the laboratory. Braxy and scrapie in sheep, mammitis, abortion and sterility in cattle, are in urgent need of investigation. Intestinal parasitic diseases in sheep also call for immediate attention.

The new Institute at Moredun, Gilmerton, Edinburgh, was completed during the year, and extra accommodation was provided at the Royal (Dick) Veterinary College, but it was not possible to start work at the latter place owing to shortage of research staff. A motor laboratory is being purchased from the sum of £1,500 presented for that purpose by Mr. Falconer L. Wallace, Chairman of the Association, who also has presented £500 for the foundation of a library. The State grant approved for the

(*Continued from previous page*).

not be wedded to indefensible methods of casting. We prefer, however, to put the case on a higher level, and to rest it upon the religious and ethical mission which Jews claim for their race. If they will put their slaughterhouse in order, they will not only rid their religion of an accretion most serviceable to its enemies, but they will hasten the impending reform of Gentile slaughtering. We appeal to them to remove the blot from their own scutcheon, and in so doing to set a bright example to the nation whose citizens they have become.

Association during the year amounted to £3,312, of which £2,300 came from the Development Fund and the remainder from the Scottish Board of Agriculture Parliamentary Vote.

(4) *Research into Foot-and-Mouth Disease.*

Two progress reports have already been issued ; a third will be issued shortly. Expenditure up to March, 1926 was just over £16,000 and the expenditure for the year 1926-27 was £11,885. " Observations on natural and acquired immunity to the disease suggest possibilities for the ultimate protection of farm animals which are at least encouraging and are being pursued."

(5) *Royal Veterinary College, Camden Town, London.*

" The Commissioners considered that it was important in the general interests of the industry of agriculture that the College should be rebuilt, and recommended, on the £ for £ principle, a grant not exceeding £35,000 for erecting new buildings and renovating existing buildings, on the understanding that the whole sum of £70,000 was used to provide and equip classrooms, laboratories, animal hospitals and other buildings required for giving specialised instruction to students of Veterinary Medicine and Surgery. The grant was to be paid out of the Special Fund provided by the Corn Production Acts (Repeal) Act, 1921."

(6) *Advisory and Local Investigation Service—Diseases of Animals.*

" Now that the organisation has been fifteen years at work the designation ' Local Research Officer ' would perhaps describe the staff of the Provincial Centres more accurately than the term ' Advisory Officer.' " An ointment with derris as the active constituent has been found effective in the treatment of warble fly in cattle at Aberystwyth. Diseases of sheep have largely engaged the attention of the Veterinary Adviser at Armstrong College. Bacillary dysentery in lambs and liver rot in sheep have called for action at Bangor, a trial of vaccine and serum from the Wellcome Research Laboratory having been made in the former disease, and treatment by carbon tetrachloride successfully carried out in the latter disease. The spotted livers of sheep fed on particular pastures, and cattle poisoning attributed to artificial manures have been investigated at Bristol. At Cardiff braxy inoculation, mountain disease in horses, control of stomach worms in sheep by sulphate of copper, intra-nasal injections of chloroform for broncho-pneumonia in pigs, the control of blackhead in turkeys, have all been undertaken by the Veterinary Adviser. At Wye the attention of the Veterinary Officer has been directed to parasitic diseases of sheep and contagious abortion in cows.

Of research associated with Veterinary Science and conducted at Institutes other than those of Animal Pathology, the following information is abstracted :—

(1) *Animal Breeding Research Department, Edinburgh University.*

The International Education Board of New York (one of the Rockefeller Foundations) have made an offer of £30,000 towards the building and equipment of the Department and the endowment of a Chair of Animal Breeding at the University, provided a like amount is forthcoming from other sources. Lord Woolavington has contributed £10,000 and the Government is prepared to provide a substantial part.

Of *data* collected in regard to fertility and fecundity, it is found that ewes of five years yield the greatest fall of lambs, and the age of the ram has little effect on the fertility of the matings. With special reference to Welsh mountain sheep, there is greater fertility in lowland environment than under mountain or intermediate conditions. More twinning is dependent on better condition of ewes at tupping time and on earlier date of service.

A study of the ideal types of bacon and pork pigs is being made, and Pig Recording Societies and Type Testing Stations analogous to Milk Recording Societies are recommended. In regard to horse breeding (Clydesdale as the breed selected for enquiry) it would appear that the greater the number of services a stallion may make, the greater will be the proportion of filly foals. As regards cattle, the greater number of the prize winners studied were sired by bulls four years of age and under, out of cows five years of age or under.

(2) *Animal Nutrition Institute, Cambridge University.*

" An enquiry was made into the fertility returns of stallions awarded premiums either under the Live Stock Improvement Scheme or by the Light Horse Improvement Society. Fertility is very low in horses, being only 53.5 per cent. with light horses and 59 per cent. with heavy horses, although up to three services are allowed each mare if she fails to ' hold ' at first. The fertility of light horses has steadily decreased, at the rate of 0.3 per cent. per year from 1887-1924, fertility being higher in the North and West of England and Wales and lower in the South and East, and very low in Scotland. The number of mares served by a stallion in a season appears to have little effect on his percentage fertility. From the age of fifteen years onward it was found that a stallion's fertility declined.

(3) *The Rowett Research Institute, Aberdeen University.*

" Irradiation with artificially-produced ultra-violet rays increased the absorption and retention of calcium and phosphorus in young pigs, the increase being evidently due to increased absorption from the intestinal tract. Depletion of calcium is regarded as a probable cause of mal-nutritition in heavy-yielding milk cows and, if ultra-violet irradiation would help to prevent this depletion, it might prove to be a factor of economic importance in milk production."

" Experimental work on poultry feeding has demonstrated the great value of milk for growing chickens. Of special interest is the observation made at all four centres (Colleges of Agriculture in Scotland and the Department of Agriculture in Northern Ireland) where this work was done, that separated milk is as valuable for this purpose as whole milk."

(4) *Institute of Agricultural Parasitology, London School of Hygiene and Tropical Medicine.*

Investigations concern primarily entozoa associated with disease in animals, but parasitic diseases of plants are also investigated. Research work is altogether very comprehensive, as indicated in the large list of twenty-five papers noted in the Appendix. The Institute's sources of research material for study and investigation appear very complete.

(5) *Scholarships and Fellowships.*

A Research Scholarship of £200 for *Animal Physiology* has been granted to a Cambridge graduate in Arts, tenable in the first year at the Animal Breeding Research Department, Edinburgh University. It would appear perhaps more appropriate if instruction under this heading (strictly

so designated) was allocated to veterinary science and undertaken at a veterinary teaching institution.

Two travelling fellowships have been granted to applicants from the Cambridge Animal Nutrition Institute for visiting U.S.A. and Canada in the one case and Denmark and Sweden in the other case. No Scholarships or Fellowships have been granted to workers in Institutes of Animal Pathology or for veterinary research workers. J. M.

Report on the Health of the City of Manchester, 1926.

The report is a lengthy one, containing a mass of statistical information dealing with all branches of public health work.

The sections of most interest to the veterinary practitioner and the veterinary public health officer are those dealing with :—

(1) Public Health (Meat) Regulations.
(2) Statements from the Markets Department.
(3) Veterinary and Milk Control Department.

The first two sections are dealt with in a very cursory manner—statistics forming the bulk of the section from the Markets Department. From these statistics the only point of note is the considerable increase in business at the city abattoir and wholesale meat market since 1900, as shown in the following table :—

ANIMALS SLAUGHTERED AT THE CITY ABATTOIR.

During year ending 31st March	*Cattle.*	*Sheep.*	*Lambs*	*Calves.*	*Pigs.*
1900	34,675	106,855	45,595	872	18,163
1926	54,027	271,127	76,460	5,192	16,106

Regarding the administration of Public Health (Meat) Regulations, 1924, the co-operation of the interested trades was sought and mutual agreement with the associations concerned was arrived at on several points. During the year 422 visits were paid to butchers' shops and it was found that these requirements and suggestions were generally being carried out. Only eleven cases needed cautioning letters, and in one instance court proceedings were taken for the exposure of meat without reasonable precautions against contamination.

Lieut.-Colonel J. W. Brittlebank, C.M.G., M.R.C.V.S., D.V.S.M. (Vict.), contributes a very interesting report on the control of the milk supply. During the year milk samples from 474 farmers sending milk into Manchester were examined biologically and 49 or 10·33 per cent. were found to contain tubercle bacilli as against 8·21 per cent. for the preceding year. The increase was chiefly evident in the milk supplied from Cheshire farms, which county forms the chief source of supply to Manchester.

These figures point to the fact that the Tuberculosis Order, limited in its scope, and administered very often in the unsatisfactory manner that it is, provides no protection against infection in the general milk supply. Colonel Brittlebank points out that experience of administration of the now defunct Manchester Milk Clauses showed that the finding of a tuberculous milk could generally be regarded as an index of the existence of a widespread infection on a farm and that the extent and distribution of tuberculous infection in the herd was such as to indicate that a serious danger point had been reached, calling for urgent measures to be taken to effect improvement. Under the Tuberculosis Order the only animal dealt with in a herd is the one notified by the owner.

In view of these facts, and the fact that the demand for graded milk is so infinitesimal, Colonel Brittlebank is convinced that for the protection of the populace of large centres pasteurisation, as legally defined in the Milk Special Designations Order, 1923, is the only effective and satisfactory method for dealing with the position at the present time. Thirteen farms hold pasteuriser's licenses and rigid control is exercised over the premises. It is satisfactory to note that samples of milk are taken after pasteurisation every fortnight, and in no case so far has any one of these samples been found to cause tuberculosis in the inoculated animals.

The number of milk shops on the register, December 31st, 1926, was 1,954. The condition of these shops was on the whole satisfactory. During the year thirteen persons and shops were removed from the register for generally unsatisfactory conditions.

CLINICAL REPORT.

Ruptured Stomach in a Stallion.

By Captain H. A. IDENDEN, M.R.C.V.S., S.V.O.,
Transjordan Frontier Force.

HISTORY. On the night of September 30th this horse broke loose from standing in open lines and remained galloping about continuously around the lines for two hours before being caught. After being secured the B.W.O. i/c Sick Lines was summoned to him and found the horse to be suffering from violent colic and ordered his removal to Sick Lines, a hundred yards or so distant, for treatment; at same time sending orderly to summon myself, but the horse died immediately on reaching the Sick Lines, before my arrival within a few minutes and before the medicine could be administered. On arrival I found the carcase to be tremendously distended.

POST-MORTEM EXAMINATION CONDUCTED EARLY NEXT MORNING. On opening the abdominal cavity a large quantity of partially-digested barley and fodder was found to be present in the abdominal cavity, lying between and among the viscera, and on removal of the stomach this was found to be ruptured along nearly the whole extent of the greater curvature, the walls of the organ being extremely thin and attenuated. The extraordinary feature of the case, however, lies in the existence of an abscess in the form of a pocket, the size of a large walnut, filled with creamy pus and discharging into the cavity of the viscus, situated in the wall of the lesser curvature of the stomach.

DEDUCTION. From the large quantity of partially-digested food present in the bowels and abdominal cavity, the horse must have fed liberally from the forage dump before galloping about until exhausted, and the severe exertion supervening on overloading of the stomach, already debilitated, caused extensive rupture of the organ and death almost immediately from collapse, as no trace of peritonitis was in existence. Other features of the case were the fat condition of the horse, the record of sickness during life and his performing regular work until the evening of death.

ABSTRACTS.

Administration of Draughts to Sheep and Cattle.

The author points out that little work has been done regarding the paths taken by drugs administered to cattle and sheep. He states that the value of sulphate of copper in the treatment of parasitic gastritis in sheep is well known but that with cattle failures have been reported. Three possible explanations for this are offered : (1) That in cases where treatment fails the causal worm is not *Haemonchus contortus*, but probably *Ostertagia ostertagi* or some other small trichostrongyle ; (2) that there is some difference in the swallowing process of the two genera ; (3) that inadequate doses have been given.

A brief review is given of the work done in connexion with attempts to control the path by placing animals in different positions, and the conclusion is drawn that the results are very discordant.

The author's own experiments have been carried out with fourteen cattle from 1 to 2 years of age, and seven sheep of the same age.

A 1 per cent. solution of methylene blue was given in amounts ranging from 10 to 30 ounces to the cattle. In eleven instances the dose was 10 ounces. It is not stated what interval elapsed between dosing and slaughter, and the method of killing is not specified. In two cases only was any blue colour found in the abomasum, and in these the colour was deep. The rumen and reticulum received the bulk of the fluid.

Of the sheep used, one was dosed with 4 ounces through a stomach tube. There was stain in the rumen and a trace in the reticulum only. Four were dosed with 1 to 4 ounces in the normal standing position. In each case the contents of the abomasum were stained, but there was also staining in the rumen and reticulum. Two were dosed in a sitting position on their haunches and the doses were 4 and 8 ounces. In both cases stain was present in all four compartments.

No information is given regarding the interval elapsing before slaughter, or the position of the animal during *post-mortem* examination. The author states that his results appear to add to the existing confusion, and that his numbers are too small to allow the drawing of any definite conclusions. He does, however, specifically state in his conclusions that " Medicaments administered to yearling sheep, as draughts from a wine bottle, go direct to the abomasum, only a small portion going to the other compartments." He has found, as have others, that the position of the sheep is not material. In the case of cattle he concludes that drugs administered in solution rarely go direct to the abomasum.

[Taylor (E. L.). The Administration of Draughts to Sheep and Cattle, with Special Reference to Treatment for Verminous Gastro-enteritis. — *Ann. Trop. Med. and Parasit.* Mar. 25, 1927. Vol. 21. No. 1. pp. 27—34. Ex. *Trop. Vet. Bull.*, Vol. 15. No. 3.].

Trypanblue and True Piroplasms.

The authors suggest that the efficacy of trypanblue against the true piroplasms should be classed as a generic character. They strongly disagree with Yakimoff and others who found the drug effective against *B. bovis* and less effective than ichthargan and protargol against *B. bigemina*.

In bovines affected with true piroplasmosis the authors find that the injection of 1 per cent. trypanblue in the proportion of 1 g. of the drug per 100 kilos body weight produces the following effects :—

There is a progressive destruction of the parasites in the peripheral circulation, which is practically complete within twenty-four hours. Within an hour or two of the injection the temperature rises 0.5 to 1.8°C., and then falls to normal within six hours. Clinical symptoms, which are sometimes severe, make their appearance. There may be muscular tremors, and acceleration of respiration which may lead on to marked dyspnoea, caused by oedema of the lungs. These symptoms are due to the liberation of toxin from the destroyed parasites and not to the direct toxic action of the drug. Injection into healthy or chronically infected animals does not cause such symptoms.

In treating severe cases, where a large amount of toxin would be liberated, one should aim not at clearing the circulation but at killing off sufficient of the parasites to enable the animal to fight for itself, so to speak.

The dangers associated with the administration of large doses may be reduced by the use of 0.1 to 0.2 g. By this means the parasites are destroyed more slowly and the fall of temperature is less rapid, but alarming symptoms are avoided. Another advantage arising from the use of the smaller doses is that it leads to less discoloration of the tissues.

[Donatien (A.) & Lestoquard (F.). Specificité du Trypanbleu dans le traitement des piroplasmoses vraies des ruminants.—*Rev. Vét.* 1927. Mar. Vol. 79. pp 133—139. Ex. *Trop. Vet. Bull.* Vol. 15. No. 3.]

Ultra-Violet Rays to Detect Ringworm and Favus on the Scalp.

Ultra-violet light from a quartz Hg lamp filtered through a Woods screen renders individual hairs attacked by the ringworm fungus, or favus, fluorescent. Normal hairs under these Woods rays show no fluorescence. This illumination, therefore, is a simple and easy method of picking out diseased hairs and of indicating the presence of these fungi at an early stage of infection. The fluorescence is specially sharp with ringworm bearing microspores and somewhat less distinct in the stage of trichophytis. This method of examination permits the detection of the parasites when only a few hairs are affected, which should render it of great service for the early detection of the disease and in its treatment and control.—P. Vigne (*Presse Med.*, through L'Union *Pharm.*, 1927, 68, 204).

Hereford Cattle and Tuberculin Test.

The Hereford Herd Book Society have resolved that in future all bulls sold at their official shows and sales shall be sold subject to their passing the tuberculin test, whether purchased for home or export. In the case of bulls sold for 80 guineas or over, and resold as having been tested prior to the sale, purchasers now may have the right of retesting the bulls by their own veterinary surgeons.

DIVISIONAL REPORTS.

Mid-West and South Wales Division.

PRESENT-DAY MILK LEGISLATION DISCUSSED AT CARDIFF.

It was somewhat unfortunate that comparatively few of the Veterinary-Inspector members of the Mid-West and South Wales Division were numbered amongst those who attended the Autumn meeting of the Division at the Queen's Hotel, Cardiff, on Friday, October 21st, 1927, at which Captain J. Howard Jones, County Veterinary Inspector for Glamorgan, read an illuminating paper on "The Veterinarian's Contemplation of the Present-day Milk Legislation." There was, however, a satisfactory general attendance, and the discussion promoted by the paper was a valuable one.

The chair was occupied by the President, Mr. J. L. Perry, and the others present were Messrs. G. B. Clode, W. T. Edwards, E. P. Evans, A. H. Good, R. W. Hall, G. L. Harber, J. Howard Jones, R. Moore, C. E. Perry, C. J. Pugh, H. S. Robinson, Edwin Sayer, D. M. Storrar, W. R. Williams, J. G. Wright and W. D. Rees (Hon. Secretary), with Messrs. R. Wyndham Davies and Adam Robinson, two farmers who were accorded a welcome by the President on behalf of the meeting, as visitors.

The receipt of apologies for inability to attend was announced from Messrs. A. S. Adams, W. A. Austin, J. R. Baxter, W. Jordan, L. C. Maguire, P. J. Mullane, F. H. Stewart and E. J. Thorburn.

The *minutes* of the previous quarterly meeting of the Division, which had received publication in the *Record*, were taken as read and were approved.

The only item of correspondence having been considered in committee, the President, upon the resumption of open meeting, called upon Captain J. Howard Jones, O.B.E., M.R.C.V.S., to read his paper, which was as follows:—

A VETERINARIAN'S CONTEMPLATION OF OUR PRESENT-DAY MILK LEGISLATION.

Whilst contemplating this subject from the view point of ourselves as a profession, its possible effect upon the profession and the enormous utility which the proper use of our profession would prove to be in effecting the purification of our milk supply, one is much inclined to ask "What use in the past has been made of our profession in the safeguarding of public health?"

I will attempt to put my thoughts into words by stating, as an instance of foregone and neglected opportunities, the fact that, except in the larger urban and municipal areas, it is the exception to find veterinary surgeons being employed or appointed as inspectors of meat.

I ask whose training and profession offers the necessary knowledge of animal pathology that fits for the passing or condemnation of slaughtered flesh if it is not the member of the R.C.V.S.? But what do we find? The vast majority of such work, especially in rural areas, is confined to the sanitary inspector, whose training in the subject consists entirely in attaining a sufficient knowledge of the differences between the normal and abnormal appearances of organs and flesh to pass an examination. Having passed this examination he is then let loose to condemn or pass meat for human consumption. Judging by certain pronouncements I have seen passed, the main justification for such appointment in some cases is that, owing to his want of experience or scientific training, he errs on the side of safety, most usually, by condemning when in doubt. Should his judgment be questioned an appeal is made to his superior, the Medical Officer of Health. I have had the experience of lecturing and demonstrating upon the subject of meat inspection to some scores, if not hundreds, of medical ladies and gentlemen studying for their Diploma in Public Health, and the conclusion I came to, despite an inborn and deep respect for the medical profession, was that their knowledge of animal pathology, at any rate, left much to be desired.

In passing, I will, however, most readily admit that there are sanitary inspectors whose experience and natural powers of observation render them most suitable for performing the routine duties of meat inspection, but my view is that a veterinary surgeon should invariably be appointed to conduct the examination of live animals about to be slaughtered for human consumption, to conduct the supervision of meat inspection, and to be an authority invariably to be consulted in cases of doubt or dispute.

I expect to be reminded that this paper was to have been one on milk and not meat. The milk production question is becoming daily and yearly a more vital one to the agriculturist; and the consuming public is gradually becoming educated to expect raw milk to be produced and sold as a hygienically produced article, free from contamination by the germs of disease, and I, for one, am most anxious that the apathy of my profession, which I consider to have been responsible for our minimum control over meat, should be replaced by an active initiative and a display of live interest in this subject of milk, together with propaganda instructing the public and governing bodies of the value which may be derived by the plentiful use of our members in the examination of animals producing milk.

My chief contention, therefore, is that every cow which is issuing milk should be periodically examined by properly qualified persons, and that this is of far greater importance than that meat should in every case be examined, necessary even as that is. To this conclusion I have come after a fairly long experience in both these branches of work. If only we take cognisance of the fact that the one disease, tuberculosis, for example, invariably makes itself visible when a carcase or an organ is infected, but that no manifestation whatsoever of its presence is apparent even when the bacilli of tuberculosis are present in enormous numbers in milk, this simple fact alone is a sufficient reason for the contention that necessity exists for periodical inspection of all dairy cows by persons properly qualified to carry out such work efficiently.

The recent enactments now in force upon this subject are: The Milk and Dairies (Consolidation) Act, 1915; The Milk and Dairies Amendment Act, 1922; The Tuberculosis Order, 1925; The Milk and Dairies Order, 1926; and The Milk and Dairies (Special Designations) Order, 1923.

Throughout the first three of these the inspections of cattle and subsequent action when necessary devolve

upon the veterinary inspector, acting under the County Councils or County Boroughs. The remainder, referring to sanitary conditions and hygienic methods under which the public supply of milk shall be produced and handled, are administered by the sanitary authorities.

A number of diseased conditions of the cow are specified. Any person selling, offering or exposing for sale for human consumption or for the manufacture of milk products for human consumption, the milk of any cow suffering from any of the following diseased conditions shall be guilty of an offence if it be proved that he had previously been given notice from an officer of the local authority, or that he otherwise knew, *or by the exercise of ordinary care* could have ascertained, that the cow was suffering from :—

Tuberculosis of the udder (or the milk of any cow which had given tuberculous milk); emaciation due to tuberculosis; acute inflammation of the udder; actinomycosis of the udder; anthrax; foot-and-mouth disease; suppuration of the udder; any septic condition of the uterus; any comatose condition; any infection of the udder or teats likely to cause disease.

Time will only allow me to touch upon some of these conditions (they all were brought up at the National Veterinary Congress at Torquay), except to say that when one considers such a comprehensive list of diseased conditions it seems almost to necessitate the cow-keeper being a qualified expert to recognise each and all of them and, with your consent and apologies for the political aspect of the paper I am inflicting upon you, I would like to place before you my views upon that part of the legislation dealing with bovine tuberculosis. It was stated at Torquay that, in the essayist's opinion, the Tuberculosis Order, 1925, has no material effect in reducing the incidence of tuberculosis in this country. With this statement I am in agreement, as of the large majority of the animals which are slaughtered under the Order, there is, of necessity, since the animal must be clinically affected before the Order applies, abundant evidence that in practically every case the animal had been discharging tubercle bacilli by one or more of its natural orifices and in some cases by all of them.

It is a striking eye-opener to find the enormous numbers of tubercle bacilli that are to be bound in fresh, and even old, desiccated sputum of affected bovines and in some cows' milk, and the ease with which they may be discovered in the urine of certain cases. The percentage found to be affected in the udder is somewhat alarming, and the latter have occurred in every case within my experience without the slightest suspicion of the nature of the abnormality on the part of the owner or person in charge.

It is therefore no exaggeration when one states that nearly all cases dealt with under the Tuberculosis Order are those which have already performed the maximum amount of damage of which they were capable before being slaughtered, and when, in addition to this, one considers the other diseased conditions scheduled in the Milk and Dairies Act and Orders, it is not to be surprised at that one should look for the institution of a systematic inspection of dairy herds.

It was also suggested at Torquay that all dairy herds should be tuberculin tested and the reactors branded. Provided that sufficient provision were made for the complete isolation of the reactors from those shown to be free, it would be of value in the eventual extermination of the disease from our cattle. Such complete separation, however, would be necessary on account of the extraordinary and, may I say, unrecognised contagious nature of bovine tuberculosis. This was efficiently carried out in Denmark under Bang's method of extermination and proved very successful; also in Sweden and Norway.

Part IV. of the Milk and Dairies (Consolidation) Act does allow for this inspection of cattle, and certain counties are launching schemes by which there will be veterinary inspection of all dairy herds. I personally advocate such procedure, for while perhaps not eliminating every affected animal, it does assure that the disease is detected in its earliest manifestation, whereas, by awaiting the owner's report, it is my experience that a large proportion of the herd is affected by the time the offending animal is dealt with.

Acute inflammation of the udder and septic conditions of the uterus are undoubtedly frequent causes of systemic poisoning to the animal itself, and it has been my experience to have seen numerous *post-mortem* findings to show a well-marked fatty degeneration of the liver, together with an extraordinary emphysema of the lungs as results of such toxæmia—frequently, too, these organs in neglected cases do become gangrenous, and would, if the milk of such animal were consumed, produce very grave illnesses.

Suppuration of the Udder. I think the Ministry responsible for the Order should have consulted the veterinary faculty before placing this down in such a general phrase. What does it mean actually? You all know that lately there has been more or less of an epidemic of suppurating udders. Then, again, there is the ordinary every-day bad quarter issuing a practically pure culture of staphylococci streptococci without any apparent infection of the other three quarters. Does it intend to convey that a cow's milk must not be used at all if she is only affected in one quarter, or does it only apply to the milk from the affected quarter? It apparently concerns the whole of that cow's milk.

The affected milk is frequently added to the whole farm's output, as I discovered this week, when serious complaints were made about one person's milk which was being sold to a wholesaler, and whose total output it turned and soured at once. I was requested to investigate, and I found a cow, almost dry and heavy in calf, to be suffering from an advanced suppurating quarter, the material extracted from it being more like soup than milk. Two young kiddies performed the milking at this farm and they had for several days carefully milked this cow's four quarters. Microscopical examination of this bad quarter's issue revealed positively millions of streptococci and corpuscles.

Anthrax. To my mind, after seeing quite a number of fatalities due to anthrax in milking cows, it is somewhat surprising that cases of anthrax are not more commonly seen in the human, as the danger of the disease being conveyed by the milk sounds highly probable, and of this I would give you an instance. In a very fine dairy herd in

Edinburgh, which was maintained within a stone's throw of my own house, a cow which had been milked at 5 a.m. that morning was found to be suffering from colicky pains a couple of hours later—she died within the hour of the symptoms of pain. I was notified and found the usual *post-mortem* symptoms of anthrax. The first action on my part was to ask of the owner whether the cow had been milked that morning and he said her milk had been mixed with the rest of the herd's yield that morning as usual, and that I myself had been supplied with my usual quota—this man being my supplier. I rushed back to the house immediately, only to find that my family and self had taken with our porridge that morning's supply of milk, which undoubtedly contained some of that cow's, now dead of anthrax—and we are all still alive. Several other instances of the ingestion of the milk of cows milked prior to the animal's death of anthrax have occurred in my experience. One explanation, only, occurs to me—and that is the extraordinary rapidity with which the anthrax germs must multiply in the blood once they gain an entrance thereto, and following that again, the extraordinary rapidity with which death ensues. Possibly it is only by chance that an animal is not milked as she is about to die or immediately prior to death taking place.

The trend of all this legislation is to penalise the producer for failure to report and for supplying milk from diseased animals. The institution of penalties for dirty or diseased milk is a long way off from the encouragement of clean milk being produced from healthy cows. It is a great pity, I think, that no encouragement is offered, on the contrary, to the man who attempts to raise and keep animals proved free from the scourge of tuberculosis and supplies milk from such cows, but they must mulct him in a licence fee in respect of the premises of production and sale; whereas the producer of a white liquid called milk, produced under who knows what conditions, has only to register his name and address with the local authority and there is no charge made.

The Milk and Dairies (Special Designations) Order. The worst and feeblest thing about this Order is the Ministry of Health's deplorable attempt to design titles for the grades of milk for which it legislates. Here are the names: "Certified Milk"—a title which conveys nothing to anyone, and yet this is the highest grade of milk from tuberculin-tested cows. The annual licence in respect of the premises where this is produced is £5. The next two are Grade A "tuberculin tested milk" and Grade "A" milk. Now, to my mind, there is no possible comparison between these two, and yet they are both called Grade "A" milks—the main and essential difference between the two being that the Grade A. T.T. milk is the ideal stuff produced from cows that have to pass the tuberculin test twice per annum, while "Grade A" milk, on the other hand, is that which is produced from cows which are examined clinically by a veterinary surgeon four times a year. The latter only represents the attainment of that standard of milk which any dairy kept up to the regulations of the Milk and Dairies Order, 1926, should produce, *plus* the desired addition of the already-mentioned veterinary inspection to which the public, as consumers of raw milk, are entitled. The name "Grade A," which is the Ministry's second attempt at christening these babies, confuses the mind of the purchaser of milk and does nothing to show the superiority of the milk from tuberculin tested animals, and it should therefore be scrapped from either one or the other, or both. To the producer of milk from tuberculin-tested animals, I think the veterinary profession should take off its hat, bow profoundly and offer him its sincere appreciation and every encouragement for the patriotic action which he performs, without any guarantee as to his obtaining more for his milk, which costs very considerably more to produce.

I should dearly like to see some sufficiently far-sighted administration instituting a scheme to support and encourage the creation of tubercle-free herds by, for instance, contributing towards the expense of having the tuberculin test applied, and I do think that such support should come mainly from the public purse, as it is undoubtedly the public who would be mainly benefited and safeguarded.

There are a couple of points in connection with tuberculin testing to which I would like to be allowed to allude, though they are not actually within the scope of the paper's title.

One is that I feel certain that the time has now arrived when there should be a powerful control over the manufacture, import and disposal of tuberculin, there being always at present the possibility of the unscrupulous being able to procure a sufficiency of material whereby affected animals about to be tested may be doped against reaction.

The other is that the control and disposal of reactors should be a matter for the profession's serious consideration. At present the situation is serious, inasmuch as these are absolutely uncontrolled, and purchasers of apparently sound stock may, all unwittingly, be purchasing definite reactors in the open mart or by private bargain.

I will conclude these few scattered remarks by telling you what I said recently to a large body of sanitary inspectors—that "the production of 'clean' milk from tuberculous cows is by far a greater sin than the production of a milk of a high bacterial content from cows free from that disease, desirable as freedom from both these faults undoubtedly is."

Before sitting down, I regretfully beg to be allowed to voice a disappointment, and I do this with every possible respect to those members of my profession practising in the County of Glamorgan. There are, in addition to my own, the names of thirty-three members of the profession shown on our register within the County of Glamorgan, and it is disappointing to have to admit that only two of those thirty-three have reported any cases of suspected tuberculosis to me or to the police. I do not wish to mention the fact of legal obligation in the matter.

Apart altogether from the fact of legal obligation, I do appeal for your kind co-operation and beg that you will kindly assist, if only for the sake of our profession, by reporting any suspicion you may have concerning any bovine within the county. I trust you will believe me when I tell you that, as far as your client's feelings are concerned, I invariably endeavour to conduct my business with as little publicity as possible and they need not have the slightest fear on that score. I often even go so far as to slaughter very quietly upon the farm and take the

animal's hide away in the back of my car sooner than cause the farmer to have it known that he (often a milk seller) had one of his cows killed by the inspector as she was tuberculous. (Applause.)

DISCUSSION.

Mr. C. E. PERRY: I should like, first of all, to thank Mr. Howard Jones for bringing this paper before us to-day. To country practitioners the subject dealt with is now one of the most important parts of veterinary work; that is, the carrying out of these Orders in relation to milk legislation.

Mr. Jones has given us a paper written from the standpoint of a whole-time inspector. I happen to be a part-time inspector to one of the counties, the county of Gloucestershire. When these Orders come into force (as they do this month) each county will have to decide whether it will employ a whole-time man or part-time men. In Gloucestershire they have decided to employ part-time men, and have appointed seventeen veterinary surgeons for the county. These men were originally inspectors under the Contagious Diseases of Animals Acts. We have just finished the first round of inspections of the cattle in the county, and I can only tell you of my own personal experience—I have examined 3,900 cattle in my district. Out of that number I have condemned 58: 33 for tuberculosis of the udder, 24 for tuberculous emaciation, and one for tuberculosis with chronic cough. All have been valued and slaughtered. In every case the *post-mortem* has confirmed my diagnosis.

As regards the valuation, in the county of Gloucestershire we are allowed to value with the owner up to £20; for any animal over £20 in value a special valuer is appointed in each district and, as far as I have observed, the Order has worked very smoothly.

With regard to compensation, I think most owners have been satisfied, but there is one little point I think ought to be altered, and that is when you condemn a fairly good animal and it is fit for the butcher. On three occasions I have had animals of nearly £20 in value slaughtered for human food, and on *post-mortem* they have been so badly affected that the whole of the carcase had to be destroyed, with the result that the owner gets one-quarter value. That is rather hard on the owner, and it has caused a little trouble with some of my clients, who have thought they should have been entitled to at least half value. I rather agree with them, because they say, "If that animal had been sold in public market I should have got £20 instead of £5."

I should like just to corroborate what Mr. Howard Jones has said as regards tuberculosis of the udder. In the thirty-three cases I took I do not think one of the owners knew that the animal was affected. It is not always the big udder that is tuberculous, or the udder that looks tuberculous: the only way to find out these cases is to have periodical veterinary examinations of the herds.

Concerning his remarks on suppuration of the udder, I do not agree with them. If a cow is suppurating in one or two quarters I say that the milk of that cow should not be used and sold for human consumption. (Hear, hear.) He gave an instance himself where the milk was milked from the fourth quarter, which was suppurating, and spoiled the whole bulk of the milk with which it was mixed. That is often done. I say that if you eliminate that cow from the herd as long as she is giving bad milk it is the right thing to do. (Applause.) If I find a cow with suppuration in one or two quarters, I report the matter to the Clerk of the County Council, and the owner is informed that he must not use the milk for human consumption until the milk is good, when the cow is again inspected and passed into the herd.

With reference to Grade A (tuberculin tested) milk, I agree with Mr. Jones; it is misleading. The grading should be simplified, and I think it will have to be done.

Mr. Howard Jones spoke of testing and the difficulties that may happen with an unscrupulous owner, who may get tuberculin and inject the cow previous to testing and thus make her pass the test. We have pitted against that a new test—"the palpebral test." I am using it now upon every cow before I condemn for slaughter. It was brought up and demonstrated at Torquay by Mr. Smythe, of Camborne, Cornwall. The palpebral test is, in my opinion, better than any of the other tests (including the double intradermal), and it has the great advantage that even when a cow has been drenched in advance with tuberculin the test still holds. It is an injection of 20 minims upwards of concentrated tuberculin under the skin beneath the eye. The difficulty of the intradermal test is that the reacton is not always decided. I saw a reaction at Torquay of which one observer said: "That is a reaction," and another, equally emphatically, said: "That is not a reaction." (Laughter.) If you have a reaction of such a character as to create difference of opinion and doubt in the mind of the onlooker, then I say it is not worth "that." (Hear, hear.) Reactions to the palpebral test can be seen across a field. I have had two reactors this morning, and the owners could tell me which cows had reacted. As to the subcutaneous test, we all know the great objection there is to the temperature recording.

I thank you, Mr. Howard Jones, for your paper, which deals with one of the most important matters which concern us as country veterinary surgeons. (Applause.)

[Mr. Perry has since forwarded us the following *post-mortem* reports.—Ed.]

Reports on the *post-mortem* examination of the two cows to which reference is made above, reacting to the palpebral test.

No. 1. Guernsey cow, six years old, giving 10 quarts of milk daily, showing clinical lesions in the udder in both hind quarters. Gave a decided reaction to palpebral test. Valued £12.

Post-mortem revealed tuberculous lesions in the udder, supramammary glands (both caseating), liver, lungs, omentum, and tuberculous growth in the diaphragm (3 lbs. in weight), also lesions in the hepatic mesenteric, mediastinal, and other glands. Advanced. Compensation paid £3.

No. 2. Red Shorthorn cow. Aged, emaciated, and evidently clinically affected, with a chronic cough. Valued £6. Gave a decided reaction to the palpebral.

Post-mortem revealed tuberculous lesions in the omentum, diaphragm, lungs and pleura, mesenteric glands, and the mediastinal glands (one gland weighing 2 lbs.). Advanced. Compensation paid £2 5s.

Mr. R. W. HALL: I rise with a certain amount of diffidence to speak on this matter. Although I am not acting as inspector under the Tuberculosis Order, I still act as an inspector under the Milk and Dairies Act, which renders my position rather difficult. Any cases which I think come under the Tuberculous Order are not dealt with by me personally but are referred to Mr. Howard Jones, and I see no reason why that system should not be generally adopted in Glamorgan, which would give a much more systematic and thorough inspection of animals by part-time veterinary officers who should be under the control of the Senior County Veterinary Inspector.

Mr. Howard Jones will, I am sure, admit that, as an individual, it is impossible for him to control the incidence of tuberculosis amongst dairy cows in any adequate manner, because he is only asked to investigate this disease either by the owner or by the veterinary surgeon after the disease has become so pronounced that the animal has done irretrievable damage, whereas in counties where they have periodic veterinary inspection, there is a good chance of finding out the disease before it has done harm to consumers of milk.

In Barry I have a limited number of dairy cows to inspect, and I examine them every two months. Any suspected tuberculous cases are subjected to the tuberculin intradermal ophthalmic test and, if the disease has advanced enough for me to report under the Tuberculosis Order, the case is then dealt with by Mr. Howard Jones.

Personally, I do not think that that is what is intended. What should be done throughout the whole country is that when a case comes under the notice of a veterinary inspector, he should be allowed to deal with the matter right away and not have to wait for some other individual to come in.

As far as suppuration of the udder is concerned, I agree both with Mr. Howard Jones and with Mr. Perry. There are conditions of suppuration of the udder where you get an induration and atrophy of a quarter—the issuing of a few beads with pus, which can hardly come under the designation "suppurating udder." On the other hand, there is suppuration of the udder as Mr. Howard Jones has described, and milk from such cows should be prohibited from use. On this point there should be much more definite instructions given to the veterinary inspector as to what is really meant by "suppurating udder," and what the inspector should do in the matter.

A point of importance is poor water supply at many farms. That, of course, lies more within the realm of the sanitary authorities, and hardly comes under our purview, but I think it is one of the chief points about which farmers have cause to complain—the inadequacy of a good water supply to their yards and cowsheds, to enable them to carry out one of the chief provisions of the Milk and Dairies Acts.

Major D. M. STORRAR: I should like to congratulate Captain Howard Jones on his excellent paper. He is an old friend of mine, of military standing, though I have not seen him since the late war.

Some years ago I had a good deal of cattle practice; in those days there was not so much said about the dairy, and somehow or other the people lived, with the milk as it was then. But I think that we are quite satisfied that tuberculosis is the most important thing with which the veterinary profession has to deal from the human family standpoint. Largely I blame the veterinary surgeons themselves for being so quiet on the matter; they ought to agitate and send deputations to local and central bodies and to Members of Parliament, calling upon them to attack the present system, which I consider is a great farce: from the consumer's standpoint, I am certain it is. I notice that the milk supplied is not as it ought to be; it may be rich, but I know that it is often very dirty. Consequently I have all the milk boiled in my household.

I think that one outcome of this meeting should be the sending of a strong, definite resolution to the Royal College of Veterinary Surgeons, the National Veterinary Medical Association, and the Ministry of Health, as the opinion of representatives of the Mid-West and South Wales Division on the question should carry some weight. There is no doubt about it, it is a farce that all this fuss should be made about foot-and-mouth disease, and millions of money should be spent over that, while the question of tuberculosis is allowed to remain much as it was years and years ago. As to all their Orders, etc., you must get a Philadelphia lawyer to go along with you to tell you what is the law on various points. (Laughter.)

With regard to inflammation of the udder, I disagree with Capt. Jones in what he has said. It is quite a common thing to get an epidemic of inflamed udders, and in many cases you get a little hardening of the udder. After a certain time recovery takes place, except that a quarter is often left blind. I would not include such cases within the operation of the Order without other clinical symptoms.

Mr. W. R. WILLIAMS, having expressed his thanks to the essayist, continued: As far as the Milk and Dairies Act is concerned, I do not think Mr. Howard Jones can blame the veterinary surgeons, in Glamorgan at any rate, for being slow in taking the matter up. Some time last year we all met together and we were quite prepared to go on with the matter and examine all the cows in our various areas, and I think that it is the County Council that has been slow. We have been quite ready, from the early part of last year, to start operations, but we have had no help from the County Council, so I do not think it is fair to blame the veterinary profession for being lax.

It was reported in the Press that Mr. Jones said, last Wednesday, that he wished that some part of the public funds could be given over to help in testing cows. I would like to know how that is going to be carried out; whether it would affect the local practitioner if any help came from the County Council. At the present time the practitioners do a certain amount of the testing.

Mr. J. G. WRIGHT: The figures that Mr. Perry gave us were very enlightening. He said that he examined 3,900 cows, and of those considerably under 100 were condemned. We are given to understand that 25 per cent. of the cattle in the country are tuberculous, and I would suggest that the clinical examination of cows for tuberculosis is thereby proved to be by no means adequate. As with all bacterial disease, the animal contracting tuberculosis reacts to it and becomes partially immune. Then we wait until there is a lesion in the udder and for certain other conditions to tell us that it is tuberculosis. In my opinion, the cow has had tuberculosis for some time. I think I am right in saying, moreover, that an udder can be affected with tuberculosis and show no clinical symptoms at all. In my opinion, to reduce tuberculosis it is essential that the cow be tested and that no reliance at all should be placed on clinical observation. The moment that tuberculosis bacilli are excreted in the milk, and this should be ascertained by periodic bacteriological examination of the milk, the cow should be condemned.

Mr. Howard Jones has emphasised the extremely contagious nature of tuberculosis. A client had a beautiful herd of Shorthorn cows. Four of the animals reacted to the tuberculin test; she would not isolate them. She kept them, and three years later, when the herd was re-tested (it was approximately the same herd) more than 50 per cent. reacted, yet to all clinical appearances those cows were in the pink of condition.

I would like to support Mr. Hall as regards suppuration of the udder—the term is so very vague. It includes everything from the demonstrated presence of a few streptococci and staphylococci to a quarter that is sloughing off. You often meet with a quarter in which there are flocculi: it is very difficult to know what to do with those cases and what to advise the owner to do.

Mr. E. P. EVANS: I quite agree with Mr. Wright when he says that you cannot very well say whether a cow is suffering from tuberculosis after clinical observation only. You must have an actual test to satisfy a veterinary surgeon that a particular animal is suffering from the disease. I had a case not very long ago where the animal appeared quite healthy as far as tuberculosis was concerned. It had recently calved, and a week or so afterwards it had inflammation in one of the hindquarters. The milk was at times rather thick, and at others it would be thinner and wheyish in colour. It contained a large number of tuberculosis bacilli. I had her immediately destroyed, but I thought that before I did destroy her I would see Mr. Jones, and I told him what I had found and what I intended doing. I do not know whether or not Mr. Jones includes me in the virtuous two he mentioned. (Laughter.) Perhaps not, because I did not report to him in a strictly professional manner. Anyhow, on *post-mortem* examination only one quarter was affected. This quarter, however, was very extensively affected and was a case of advanced tuberculosis; so much so, that Mr. Bissett, our representative here to the University College in Cardiff, thought fit to exhibit that quarter at the Royal Agricultural Society's show this year at Newport. I do not know whether any here saw that quarter, but it was a very typical case of tuberculous infection of one quarter of the cow's udder.

With regard to anthrax, I should like to know from Mr. Howard Jones whether it is possible for anthrax germs to be introduced into the system of a human or animal subject and for that subject to live afterwards. I will take the symptomatic anthrax, known as "black leg." I am quite satisfied myself that you can have a number of young stock suffering from symptomatic anthrax, and it is not necessary for it to prove fatal. We will say that a

number are grazing together. My theory is that the whole of that number are affected with the germ of blackleg, but it does not follow that the whole would die; you will find that those in the best condition will succumb from this germ—the others, in poorer condition, as a rule escape death. One theory is that the blood must be in a very good or rich condition for the germ to multiply or grow rapidly. Is it possible for small quantities of germs of anthrax to be introduced into the system and not cause death?

With regard to grade "A" milk and grade "A" (tuberculin-tested) milk, I know of cases in which the producers of the latter, after an initial testing, never have another, and yet they go on advertising their milk as being of that grade. In the meantime, they introduce fresh animals into their herds.

Mr. H. S. ROBINSON: I should like to compliment Mr. Howard Jones on his very logical and commonsense paper. I think he has, if I may venture to say so, been brave in condemning an Order which has given him an appointment, but I do maintain and I believe we should say what we think, that the Tuberculosis Order, as now framed, is an absolute farce. That, at least, is my own opinion.

We find that Mr. Perry, who has examined some 4,000 cattle, has slaughtered 50. I do not suppose that Mr. Perry has any bigger cattle practice than most of us, as inspectors, and I should like to wager that there are few part-time inspectors who, under the Tuberculosis Order, have slaughtered 50 cattle in six months. The fact is that the cattle are not reported, or they are only reported when dying. But the veterinary inspector has to value the cow, and it amounts to this—that the ratepayer is paying for a cow that would often have died in about a month's time. With reference to grade "A" milk, there was a grade "A" milk herd established in Newport. I told my wife to buy this milk, but she soon complained to me that it was dirty. I looked at it in the glass and it certainly was dirty. Yet no doubt 99 people out of 100 are under the false impression that grade "A" milk is far cleaner and more wholesome than ordinary milk.

I should like this meeting, or a future one, to do something towards rendering these Orders and Acts much more of a practical proposition and not such farces as they are.

Mr. ADAM ROBINSON (Visitor), speaking at the invitation of the President, said: As an old farmer, may I say that in 1897 I tested a herd of cows in Scotland. One reacted—the best cow I had, to all appearances. I sent her to the slaughterhouse (she was in good condition), and the veterinary surgeon, who had tested her, could only find a few tubercles in the throat. The carcase was all right and was passed by the meat inspector, but she had enough lesions in the throat to make her react. In 1910 one reacted again, out of twelve. She was a Jersey cow and in nice condition. The veterinary surgeon was present when she was slaughtered and he found tuberculosis in the neck and stomach. The carcase was again all right. Neither of these cows would have been thought by the average man to be in any way wrong, nor by the veterinary surgeon, looking at them from a clinical point of view.

I was unfortunate enough, in the early years of the war, to go to a chance sale, and I bought two cows, Cumberland bred. I found out after I had got them home that they had been tested and had reacted. I could not get them into calf again, and I killed them off. One of them, I was afterwards told, was absolutely rotten. That showed that the tuberculin test was very useful—to the man who was selling the cow. (Laughter.) He got her on to my poor shoulders and I had to bear the brunt of it. I sold the other cow to the butcher and he wired me that the cow was wrong when he killed her. Up to within a fortnight of my sending that cow away she was in splendid condition, but then she began to go off her feed. She, too, was completely rotten inside, and I lost completely over her. There should be something done to prevent these reactors being put on the market, and I say that the Government should be willing to pay the farmer who is willing to place his cows before a veterinary surgeon, and have them properly tested. It is for the public benefit, and until such time as that is done you are not going to eliminate tuberculosis.

Mr. A. H. GOOD asked Mr. Howard Jones to whom should be reported irregularities witnessed in connection with the transport and delivery of milk.

Mr. R. W. HALL: I wish to make a few further remarks, in consequence of the statement that the Tuberculosis Order is a farce, and has had no effect in the eradication of the disease. I quite agree with Mr. Howard Jones when he says it has no apparent effect as regards the reduction in number of the animals affected. During meat inspection at Barry I find just as many cattle affected with tuberculosis now as I did before the Tuberculosis Order came into operation, but I do not meet with the disease in such an advanced degree, and for the probable reason that formerly cows now condemned under the Tuberculosis Order were sent to the market, and sold for a song to a butcher with the pious hope they might pass inspection at the abattoir, and that does not happen now.

I should also like to say, in respect to anthrax, that I had a similar case to the one experienced by Mr. Howard Jones. I did not myself drink any of the milk, but the milk was distributed about the town on the morning of the day on which the animal from which it came died of anthrax. There was no report of anyone being taken ill, but it seems peculiar that an animal should die in such a few hours after the milk was taken from her, and that it did not have any ill effect. Whether the udder tissue acts as a minute filter and prevents the anthrax germs gaining access to the milk ducts I am not in a position to say.

The HON. SECRETARY expressed his great appreciation of the action of Mr. Howard Jones in preparing a paper which had proved of such interest to them all, and his regret that there were not more part-time veterinary inspectors present to hear and discuss it.

The PRESIDENT: I quite agree with what Mr. Howard Jones has said about the hardship inflicted upon those producers who decide to go in for the clean article. I think it is greatly unfair that those who have been put to the expense of putting up sterilising plant and having their animals tested should be penalised by having to pay a fee, and having to be subject to all sorts of restrictions afterwards. But, as regards those restrictions, I, like Mr. Evans, have had experience of farmers who have got a grade "A" licence, have had one inspection made, and there the matter has ended.

There has been a great deal of juggling with titles, and I often think whether the milk vendors are always entitled to use those they do. There is juggling with bottles, too. The law says that bottles should not be filled except in one stipulated place. Then comes the question of uniformity in districts. Any one county may agree to carry out all the requirements as regards the obtaining of good, clean milk, and yet in the neighbouring county apparently nothing is done. That, I think, should not be allowed to exist. (Hear, hear.) I think the Governent should insist upon every local authority doing its work.

With regard to Mr. Wright's suggestion that all animals should be tested, that, of course, is the ideal, but, as we all agree, we do not know what to do with the reactors. As regards suppurating udder, I feel that, if a cow has got any mastitis, or any abnormal discharge from her teats, it is a matter of common sense that we should condemn the entire milk from that cow.

Mr. C. E. PERRY: May I reply to one or two points addressed directly to me? Mr. Hall, *re* three quartered cows, and suppuration of the udder. In those cases where you get indurated quarter and the quarter is dry, we have instructions to pass them. It is only in those cases where you get chronic suppuration that you have to stop the supply.

Mr. Robinson says he does not think that the Tuberculosis Order is doing a bit of good. Of course it is not, in your county, because you wait until the owner reports a case, when the cow is generally in the last stages; but in the

counties where we have general inspection the Orders are certainly doing some good.

Most of the fifty-eight cows I discovered on general inspection would have been alive to-day, and probably distributing tuberculous milk for some time to come. Some of the cows were giving three and four gallons of milk per day, and tubercle bacilli were found in the milk.

In answer to Mr. Wright, I quite agree that general tuberculin testing is the only way to clear out the tuberculous cow, but to-day I do not think that it is a practical proposition, on account of the large number of reactors; and what are we to do with the reactors? Let us carry out the Orders, and I am sure if some progress is not made it is not the fault of the Order but of the administration of them.

Mr. J. W. HALL MASHETER sent the following notes in contribution to the discussion. Unfortunately they did not reach the Secretary in time to permit of their presentation to the meeting.

On September 3rd I received the following from our County Medical Officer of Health:—

"MILK AND DAIRIES ACT, 1915. SECTION 4.

"Reports have been received from the London County Council to the effect that in the case of samples of milk taken from churns Nos. 64-188 and L.7826 supplied by Messrs.———— of ———— to the London Wholesale Dairies (samples taken 16th August) the injected guinea pigs succumbed to an acute intercurrent infection.

"I shall be obliged if you will visit Messrs. ———— farm at your early convenience and give me a report on the results, including observations on the following points:—(1) General condition of farm as a dairy farm; (2) Water supply, nature and sufficiency; (3) Cleanliness of milk vessels, means for cleansing, and including supply of hot water; (4) Number of cows in milk on 16th August and to-day; (5) Health of milking cows, giving detailed information and condition of cows not now in good health; (6) Name of any cow suspected to be suffering from tuberculosis, and the parts affected; and (7) Action taken with respect to suspect."

In consequence of the receipt of the above, I visited the premises, and then reported as follows:

"I have made an inspection of ———— and of ————. The latter, because the milks of the two farms are mixed together before being sent to the London Wholesale Dairies. The mixed milk was sent on 15th August in the churns mentioned, viz.: 64-188 and L. 7826.

"*Farm No.* 1.

"The general condition of the farm as a dairy farm is good. There is a stream running through the farm, and in addition there is a pond fed by a spring near the house, but this pond is in a very muddy state and covered with fæces from the cows, and is not fit for the cows' use. It should be fenced off.

"There is no water fit for human use on the premises—the drinking water being obtained from Farm No. 2, a mile away, twice a day in churns.

"There is a large soft water cistern in the house with pump attached. The water from this cistern is used for cleansing the milking utensils after being boiled. The boiling is done in a copper in the scullery. The milking utensils seem to be thoroughly clean.

"The buildings are staple and fairly clean, but yards are dirty. The udders of the cows are not cleaned before milking. No clean overalls worn by milkers, and hands only washed before milking the first cow.

"Cows in milk on Aug. 15th were 13.

"Cows in milk on Sept. 5th are 11; two being dry before calving.

"Milk from two cows showing slight abnormalities sent to you 5th September, 1927, both showing slight induration in the left hind quarter. Cattle named 'Whisky' and 'Filpail.' The cow 'Whisky' is rather doubtful, and may be tuberculous.'

"*Farm No.* 2.

"This is a sound dairy farm with a good supply of clean running water with no obvious source of contamination. The milk vessels appear to be clean.

"The number of cows on August 16th was thirteen, and the same cows are in milk to-day (5th September, 1927).

"The health and condition of the cows are good, with the exception of 'Tiny,' which is being dried off on account of suppuration of the left hind quarter of the udder.

"I noticed slight nodulation in the left hind quarter of 'Tulip,' and sent a sample to you, 5th September, 1927."

The report of the bacteriological examination as was follows:—

(1) "Filpail." Streptococci present. Tubercle bacilli not found.

(2) "Whisky." Streptocci numerous. Tubercle bacilli not found.

(3) "Tulip." Streptococci present. Tubercle bacilli not found.

On asking for further particulars as to what was meant by "an acute intercurrent infection," which killed guinea-pigs, the only information available was that a spore-forming bacillus similar to *B. welchii* was present in the samples.

I had a letter from the County Medical Officer of Health on Wednesday last, saying: "On Thursday last I discussed the matter with the Medical Officers of the London County Council, with the result that I gathered there is little known about it.

"One concrete piece of information was that, between 1923 and 1927, of over 10,000 samples, about 8 per cent. had been fatal to guinea pigs. In different years the proportion had ranged from 5 per cent. to 10 per cent. The general idea is that the fatal result indicates lack of cleanly conditions, somewhere between production and sampling, and our problem is to find out where the fault lies."

I have made a few rough notes on *B. welchii*, and as a comparison, notes on *Bacillus gangrænæ emphysematosæ*, *B. welchii*, *B. perfringens*, *B. ærogenes capsulatus*, *B. enteritidis sporogens*, *Clostrydium welchii*.

This is a large bacillus with square cut or slightly rounded ends. Found singly or in pairs. Non-motile and possesses no flagelli. Produces ova spores usually saturated at one end.

No spores are produced in media containing any carbohydrate fermented by the bacillus. Yet spores having bacilli similar to *B. welchii* were found in these samples. Is a strict anærobe. Growth not abundant except in the presence of glucose. Gas evolved abundantly—odour sour owing to the production of butyric acid, but not putrid. A very characteristic change is produced in whole milk cultures. There is coagulation of casein with a clot which floats in a nearly clear whey. The clot and layer of cream are torn and riddled owing to the active evolution of gas. This stormy fermentation of milk is of importance in identifying the organism.

The bacillus is widely distributed in nature, being found in soil, water, milk and fæces of many species of animals, including man. By far its most important pathogenic rôle is, however, in gas gangrene. Guinea pigs and mice are susceptible to the action of the bacillus.

The *toxin* produced by the *B. welchii* produces its effects very quickly in the body of all inoculated animals, and death may occur in two or three hours.

Bacillus gangrænæ emphysematosæ, or black-leg bacillus. This bacillus is about the same size as the *B. welchii*—slender and straight, rounded at the ends, but motile by means of flagellæ, and at a certain stage of its development the bacillus assumes a whetstone or lemon shape—the clostrydium form (see differential nomenclature of *B. welchii*)—while in the interior a spore develops at the centre or at the end.

Bacillus gangrænæ emphysematosæ is anærobic, gas is formed, sporulation in a few days is profuse, whereupon sporulation ceases and bacterial masses sink to the bottom. From dextrose and lactose the bacillus derives a gas which is either odourless or resembles rancid butter, butyric acid. Milk is curdled only imperfectly. Small amounts of virus inoculated into guinea pigs kill within 12-36 hours.

Infection results from the consumption of infected feed or drinking water. Intestinal canal contains the bacilli, fæces contain them.

Drinking water is dangerous, especially through admixture of mud, in which spores usually accumulate in large numbers. Spores remain, also, in the upper layers of the soil, where they remain year by year in a viable condition.

If cattle drink from a stagnant pool which is "muddy," the mud adheres to leg, flanks, abdomen and udder, and is rubbed off into the milking pail, thus contaminating the milk.

There is no doubt that this is a post-milking contamination, and is due to uncleanly milking methods, whether it is due to the *B. welchii* or to the *Bacillus gangrænæ emphysematosæ*, and I can see no remedy until the sanitary part of the Milk and Dairies Order is rigidly enforced.

THE REPLY.

Mr. J. HOWARD JONES: I am afraid I have not kept a record of all the points to which I should reply.

With regard to the large percentage of tuberculous udders you have discovered in your district, Mr. Perry, may I ask whether in all cases a sample of the milk was microscopically examined?

Mr. PERRY: Not in every case; only in doubtful cases.

Mr. HOWARD JONES: Of course there is also the cow which is giving tuberculous milk which does not show any infection of the udder at all. I have met with several cases of that description, in which there has been no clinical evidence whatever.

With regard to suppuration of the udder, I suppose I did not make myself quite clear, but I was putting it forward as a question as to what the Ministry intended, and you read it, in your county, Mr. Perry, that suppuration of the udder does include the whole milk?

Mr. PERRY: We applied to the Ministry and the answer was that if an animal was giving suppuration in one quarter the whole of the milk was not to be used for human consumption.

Mr. HOWARD JONES: The question of whole-time or part-time veterinary inspectors for county areas is, of course, entirely left to the County Councils, and I suppose they are responsible for the administration of the Milk and Dairies (Consolidation) Act, as far as that is concerned, at any rate. But I should be delighted to see, in this county particularly, routine inspection of all dairy cows, however it is done.

Mr. Evans spoke of cases of anthrax, I do not know that there has ever been any investigation made as to the presence of the anthrax bacillus in milk, and the point I brought forward in my paper was that I thought it was just chance that no people had drunk the milk of a cow milked immediately she was taken ill with the disease, and also to point out the rapidity with which the anthrax germ multiplies in the blood-stream once it gains an entrance thereto.

I am very sorry I have not recorded some of the other points raised, but I would just like to say, in reply to Mr. Good, that I think the Medical Officer of Health of the district concerned is the man to whom should be reported irregularities in the conveyance and distribution of milk.

The meeting concluded with the passing of hearty votes of thanks to the essayist, and to the President for his conduct in the chair.

The company subsequently partook of a substantial tea at the invitation of the local members of the Division.

W. D. REES,
Hon. Secretary.

North Midland Division.*

The Annual Summer Trip of this Division was held on July 29th, 1927, and was purely a pleasure outing, no business of a professional nature being transacted.

The members and friends present were Mr. C. S. Smith (President), Mrs. Smith, Mr. Smith, junr., Miss Miller, and Mr. and Mrs. Robinson, of Barnsley; Mr. J. S. Lloyd, Miss Lloyd, Miss Evans, Mr. W. Tweed, Mr. and Mrs. Sampson, Mr. G. Sampson, Mr. and Mrs. S. H. Nixon, Mr. and Mrs. Thompson, and Mr. and Mrs. Hardwick, of Sheffield; Mr. Furness, Miss Furness, Miss Gertrude Furness, of Alfreton; Mr. and Mrs. Bowett, of Worksop; Mr. and Miss Scott, and Miss Easedale, of Pontefract; Messrs. J. S. and A. Woodrow, and Miss England, of Goole; Mrs. Green, of Rotherham; Mr. and Mrs. Hudson and Miss Hudson, of Retford, and Mrs. Angler, of Doncaster.

An apology was received from Mr. T. Fletcher who was unable to be present on account of ill health. The Hon. Secretary was instructed to convey the best wishes of the party for the improvement of his health in the near future.

Apologies for inability to attend were also received from Major Abson, Captain Johnson, and Mr. Murgatroyd.

The members and friends from Sheffield and Barnsley proceeded from the Town Hall, Sheffield, by an all-weather motor coach to the Swan Hotel, Mansfield, where they were met by several other members and friends. The party was received by Mr. T. Ludlow, M.R.C.V.S., Vice-President, who kindly provided luncheon. Following lunch, the President, Mr. Smith, proposed the health of the host, which was drunk with much enthusiasm and acknowledged by Mr. Ludlow.

Some of the party, meeting the Sheffield and Barnsley contingent at Mansfield, had arrived there in their own motor cars, and all then proceeded to the historic Newstead Abbey. The party was greatly interested in viewing the Abbey and taking note of the architecture and the beautiful grounds, the only drawback being that, as it was working to a timetable the visit had to be short. Leaving the Abbey, a return was made to Mansfield and thence to Hardwick Hall, which is one of the Derbyshire seats of the Duke of Devonshire. After viewing the Hall with its fine pictures, its ancient armoury and splendid tapestry, the party proceeded to the Hardwick Inn, where kindly and hospitable entertainment to tea was provided by the President, Mr. Smith, who was cordially thanked.

The weather for the whole of the trip had been delightful and, except for a small shower on the way back, continued as such, everyone enjoying the outing. The Sheffield and Barnsley members returned by motor coach and arrived in Sheffield in good time for the Barnsley members to get home; the rest of the party made their home by different routes from the Hardwick Inn. The journeys to and from Mansfield were made by different routes, that to Mansfield being *via* Clown and Barlborough, and returning by Chesterfield and the beautiful Cordwell Valley, an arrangement which added considerably to the pleasure of the trip.

J. S. LLOYD,
Hon. Secretary.

* Received on November 10th.

CORRECTIONS.—In Major General Sir John Moore's letter of last week, for the word "only" in last line but one at page 1031, read "out" making the words read "drawn out." Add the word "of" after the word "feelings" in the first line of page 1032. The address at foot of letter should be deleted.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Nov. 28th—Meeting of the Editorial Committee, N.V.M.A., 4-30 p.m.

Dec. 1st—Meeting of the Central Division at 10 Red Lion Square, W.C.

Glasgow College Prize-giving.

Professor John Glaister, M.D., D.P.H., Chairman of the Board of Governors, presiding at the annual prize-giving ceremony at the Glasgow Veterinary College on November 9th, said the results achieved were highly satisfactory. Of 74 students studying for the diploma granted by the Royal College of Veterinary Surgeons, 24 presented themselves to the Board of Examiners at the December examination, and 48 at the July examination. Taking both examinations, 72 presented themselves and 45 were successful, giving a percentage of 62.5. There were four women students in attendance during the session, and it was expected that the number would be further increased during the coming session. During the year it was found possible to give tuition at the College leading to the external degree of B.Sc. in Veterinary Science of the University of London. There were at present eight students studying for that degree. A grant of £200 from the Carnegie Trust for the purchase of permanent equipment had been applied towards providing the additional apparatus necessary for the teaching of the degree. For the first time in its history one of the College students, Mr. Thomas Johnston, of Glasgow, who graduated M.R.C.V.S. in July last, won the Fitzwygram Prize. Mr. Johnston in his previous years gained the gold medal and all the silver medals except one that it was possible for him to gain. The Fitzwygram Prize was given by the Royal College of Veterinary Surgeons to the student obtaining the highest aggregate marks in all the professional examinations for the membership diploma.

Referring to the College buildings, the Chairman said they had now an anatomical laboratory second to none in the kingdom. Until a few years ago the College was supported by a grant from the Scottish Board of Agriculture, but for reasons best known to that body the grant had been withdrawn on the ground that there was no room for two veterinary colleges in Scotland. Well, if it was true that one veterinary college was sufficient, the Glasgow College would have gone down. But it had not gone down, and what was more, it was not going to go down. (Applause.) While they had been able to carry on up to that point, the Governors protested against the withdrawal of the Government grant, which was needed for the training of students.

Lord Provost Mason presented the prizes.

The following were the medallists:—Mr. Ian A. Gillespie, Bruichladdich, Islay, the H. and A.S. silver medals in junior anatomy and biology; Mr. Thomas Whyte, Stobo, Lesmahagow, H. and A.S. medal in chemistry; Mr. Donald W. Menzies, Drumnadrochit, Inverness, gold medal presented by the Governors to the student gaining the highest marks in the professional examination in anatomy; Mr. George Slavin, Springburn, H. and A.S. silver medals in senior anatomy and physiology; Miss Marion Stewart, Scotstounhill, H. and A.S. medal in stable management; Mr. John M. MacDonald, Glasgow, H. and A.S. silver medals in materia medica and hygiene; Mr. Neil MacArthur, Campbeltown, H. and A.S. medal in pathology; Mr. Thomas Johnston, Glasgow, H. ans A.S. medals and first-class certificates in veterinary medicine and surgery.

The Scotsman.

Thoroughbred Stallions:—London Show in 1928.

The War Office announces that a show of thoroughbred stallions will be held, in conjunction with the Hunters' Improvement and National Light Horse Breeding Society, at the Royal Agricultural Hall, Islington, on February 28th and 29th and March 1st next year.

A challenge cup, presented by the King, will be awarded for the champion stallion in the show; and a gold medal will be awarded by the War Office to the owner. Sixty King's premiums (including six super-premiums) will also be offered for award by the War Office. In addition to the King's premiums, a very limited number of War Office premiums will be available for award on the recommendation of the county horse-breeding committees. These awards will not be made, however, until the routes of the King's premium stallions have been arranged.

Personal.

Veterinarian's Municipal Honour.—At the municipal elections held in Kincardineshire, Mr. H. W. Robson, J.P., M.R.C.V.S., was returned unopposed for Laurencekirk Burgh, and at the first meeting of the Town Council he was unanimously elected Provost and Chief Magistrate for a second term of office.

. . . . . .

Wills.—Penberthy, John, of Littledean, Gloucestershire, formerly president of the Royal College of Veterinary Surgeons, Professor of Pathology at the Royal Veterinary College from 1888—1892 and later Professor of Medicine there, a member of the councils of the Central Chamber of Agriculture, a governor of the Royal Agricultural College, Cirencester, and a member of the Court of the University of Bristol, who died on May 23rd, aged 69, (net personalty £16,272) £24,165

Farrar, Charles, M.R.C.V.S. (55), of Withens Lane, Wallasey (net personalty £929) £2,293

Army Veterinary Service.

London Gazette—War Office—Regular Forces.

November 18th.—Major W. C. Lowe, O.B.E., F.R.C.V.S., on completion of 28 years' service, is placed on retired pay (Nov. 18th), and is granted the rank of Lt.-Col.

Professor James Macqueen.

Mr. Hugh Begg, writes: "I am reminded by you recent Editorial on my old friend Professor Macqueen, of some features of his earlier life and work at the Glasgow College, where he was professor of Anatomy and Materia Medica, and assisted in the large general practice attached to the College at that time and in the teaching of surgery.

"The subject of Materia Medica provided him with little scope for the display of his gifts of language or personal qualities, but it was an abounding treat at all times to listen to his lectures on Anatomy. He taught the subject extemporaneously and with characteristic eloquence devoid of verbosity, and firmly held the attention of his hearers by the constant use of impressive, snappy sentences so clear-cut in his inimitable and apparently sardonic style that freshmen were awed by the evident magnitude and importance that the subject was made to assume.

"After the lapse of forty-two years one can readily recall the thrill of mixed feelings experienced as he dispassionately rattled off the technicalities of the sphenoid bone, while his mobile fingers indicated its humble-looking foramina, facets, and tuberosities which bore such mighty names.

"On one such occasion the flood-tide of jaw-breakers was such that a very capable Irish student who was endeavouring to concentrate by holding his head in both

hands, yelled out ' Good God Almighty, I'm drowned out.' Needless to say, the professor unbent in a genial smile.

" On another occasion, during a grind on Anatomy which sometimes took the place of a lecture, he fastened on a dull, chronic student who was something of a favourite, and plied him with rather simple questions. By dint of bending his head backwards and to either side the student endeavoured to catch the whispered counsel of his helpful neighbours and shot back the belated answers in confident style. The professor enjoyed the comedy dissemblingly for a time, and then said ' My God, Pat, what a mighty student you would be if you had the neck of a giraffe.' "

Long after Professor Macqueen had left Principal McCall, there was abundant proof of the old man's pride in the brilliant comportment of his one-time assistant who added such lustre to the teaching obtainable at the College.

" The Modern Abattoir and its Place in Public Health Administration."

With the above as his subject, Dr. Gerald Leighton, Medical Officer (Foods) Scottish Board of Health, delivered the Benjamin Ward Richardson memorial lecture, under the auspices of the Model Abattoir Society, at the Royal Sanitary Institute, 90 Buckingham Palace Road, on Thursday, November 10th.

Dr. Leighton said that in order to obtain a satisfactory system of administration connected with the meat food supply there were certain fundamental principles which must be insisted upon. All countries which had studied the question had arrived at a number of common conclusions. They might be summarised as :—

1. The concentration of the slaughtering of food animals in public abattoirs in all large centres of population, with special arrangements for rural districts.
2. A definite and uniform system of inspection.
3. An adequate staff of competent professional inspectors assisted by less highly qualified or lay inspectors.
4. A recognised legal standard or code of judgments on the various morbid conditions to which food animals are liable.
5. Special laws and regulations in addition to those applicable to foods in general.
6. The recognition of such methods of slaughtering only as can be held to avoid unnecessary pain to the animals concerned.

In rural districts the best solution was the licensing for killing on certain days and in certain hours only, in order to allow the inspector to be present as often as possible.

Inspectors should proceed on definite lines in order to reach uniformity of results. A uniform legal code of judgments was necessary for protection to the customer and in justice to the trade. Special laws were required to deal with the training of inspectors and their appointments, the transport of animals, the licensing of premises, and other matters. All the larger animals should be stunned before being bled.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Where Do We Stand ?

To the Editor of The Veterinary Record.

Sir,—Mr. Phipps' letter in your issue of the 19th exceeds his expectations : it not only appears to be, but is scurrilous, I am all in sympathy with his ideal, namely, the advancement of the profession, but I totally disagree with him as to his method of procedure. If one wishes to improve one's house it is not generally considered that the most dignified or useful method is to begin by throwing mud at it.

He says that the veterinary surgeon in the past has been looked upon as an uneducated fellow, a man of not sufficiently good social standing to enter into discussion with gentlemen forming a committee of inquiry.

Might I ask what is the source of such information and what period of time represents the past ? May it not be that his assessors are at fault ? If one is dealing with centuries, is it not a fact that many people, even those holding high office of State, were uneducated according to present tenets ? When we come to the 19th century, is it not equally true that the veterinary profession was amongst the first to put its house in order and this while many so-called learned professions were still slumbering in ignorance ? Many of our older members represent the latter half of the 19th century. I am honoured to call many of them friends and not by the greatest stretch of imagination could I call them uneducated : rather, when in their company, I am painfully conscious of my own shortcomings. If the veterinary surgeon has been debarred because " he was not of sufficient social standing or not a gentleman," might I ask what is the definition of these two qualities ? If committees in the past have been constituted of pompous, snobbish individuals let us be thankful that our representatives have been absent and so avoided infecting the profession by personal contact.

In what way is the mode of entering the profession different from that of other professions ? In the medical profession, for instance, the same general rules hold. For many of the diploma-granting bodies the standard is as for the M.R.C.V.S., but universities granting higher academic degrees require a higher standard—exactly the same as that required for veterinary degrees.

Mr. Phipps must realise that when dealing with veterinary students he cannot adopt kindergarten rules. The students are quite capable of looking after themselves both in and out of College. Is it not probable that all the supervision and care which is of necessity bestowed upon the " 'varsity student," is a sign of weakness—mental, moral and physical ? May we not be thankful that our young fellows have not shown the need of such coddling ? If my newspaper is correct, there is evidently much more " running wild " at the older " 'varsities " than even at Camden Town.

I agree with Mr. Phipps that the " 'varsity man " has enormous advantages over other people in that he moves in more (so-called) influential circles, but I go further and state that, in my experience, this is often his only asset.

The R.C.V.S. is not affiliated to any university, nor can I see any necessity for such affiliation. Our one portal system and independence are our most treasured possessions: if we were affiliated I have no doubt that we should lose these. As regards the schools, I believe that they are all affiliated or part of their local university.

If we are the " Cinderella of Professions " that is only because of our numerical strength and it is nor eflec-iton upon our worth. We have as good a class of man entering the profession to-day as any other profession has. When these men are compared with those of another profession of which I have some experience, the comparison is in our favour.

Let us aim high by all means, but do not let us rise as parasites dependant upon some other profession or body.

Let us stop belittling our own profession and praise others less.

The future of the profession lies with the profession itself. If we hang on to others then, indeed, will we become the Cinderella.—Yours faithfully, J. McCunn.

Royal Veterinary College.
November 21st., 1927.

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To the Editor of The Veterinary Record.

Sir,—I venture to endorse the views of Mr. Phipps in his letter published in your issue of November 19th. It appears to me that in addition to flying our flag we should see that the colours are fast. A thorough revision of the course of study for qualification is long overdue and at the same time it is necessary to engender the environment

associated with modern professional education. It must be admitted that the students at Camden Town are educated in an atmosphere of intellectual aloofness which is not healthy for them or for their professional career. Our title to intellectual recognition is obtainable if the profession is united in that aim. Status has been given to individuals and will be given to the profession as a whole if it puts its house in order and deals with the education problem without further delay.

It is amazing that the Council of the R.C.V.S. should tolerate the lack of proper accommodation and equipment at the Camden Town College. The present time appears to be opportune for removing it from its existing environment and I beg to suggest that Reading might be considered as a suitable place for it.

It possesses a young and enterprising University, keen on every kind of agricultural education, and there should be little difficulty in obtaining a Veterinary Faculty. Reading is situated in an agricultural and horse-racing district and a Veterinary College should be able to establish a large hospital practice there in the course of a few years. There is, no doubt, an old-established practice at Camden Town, but it is mainly equine and canine. London is being rapidly mechanised and the profession is not yet dependent on small animal practice.

Before spending money on the existing College the advantages and disadvantages of removing it should be considered from every angle.—Yours faithfully, G. K. WALKER (Colonel).

Abingdon.

November 19th, 1927.

The Royal Veterinary College Appointments.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—It was indeed fortunate that the question of Major Rees-Mogg, as to what means were adopted, by the Governors of the Royal Veterinary College, to ensure that the very best men available should be selected to fill the vacancies on the College staff, should have appeared at the same time that so much attention is being given to the way that the profession is ignored whenever a veterinary question arises.

These appointments are so intimately bound up with the education, advancement, progress, and status of the profession that it is inconceivable that anyone can be found who could claim in connection with them that they are a purely private matter, and of no concern to the profession.

Sir Frederick Smith writes :—" We must assert the right not only to conduct our own professional affairs, but also to represent veterinary interests wherever they arise."

Sir John Moore writes :—" The Colonial Office is perfectly well aware that the Royal College of Veterinary Surgeons is the Body Corporate of the Veterinary Profession, controlling veterinary education and responsible in every way for the progress of the profession."

If the Colonial Office is aware of this, how much more must this be the case with regard to the Governors of the Royal Veterinary College ? In view of the two extracts given above, the pertinent question asked by Major Rees-Mogg, and the considerable amount of feeling that is being shown regarding the matter, it is earnestly to be trusted that some answer may be forthcoming.

To have aroused so much comment, one cannot avoid thinking that, in this instance, the Governors must have departed in some way from the source from which they have in the past received their guidance and advice.—Yours faithfully, T. LISHMAN.

Common Room, Gray's Inn.

19th November, 1927.

[In relation to this matter, we would refer correspondents to the Charter of Incorporation of the Royal Veterinary College, Camden Town, under which appointments are made.—Ed.].

The Editor acknowledges the receipt of the following :—

Report of a meeting of the Yorkshire Division, from Mr. T. C. Hall, Hon. Secretary.

Report of a meeting of the Lancashire Division, from Mr. J. Spruell, Hon. Secretary.

Communications from Mr. Ll. E. W. Bevan, Dr. H. Draper Bishop (M.O.H., Guernsey) and Mr. R. L. Higgins.

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